CHNOLOGY DEPT

'It's Important to Know In Time'
Member Associated Business Papers, Inc.; Audit Bureau of Circulations.
The Newspaper of the Industry

Air Conditioning & REFRIGERATION NEWS

Production Tools for Victory
AN INTERNATIONAL INSTITUTION ★ SUBSCRIBERS ALL OVER THE WORLD ★
Technical Governmental

Reentered as second-class matter October 3, 1936 at the post office at Detroit, Michigan, under the Act of March 3, 1879.
Trade Mark Registered U. S. Patent Office. Copyright, 1943, by Business News Publishing Co.

'Written To Be Read on Arrival'
Issued Every Monday at Detroit, Michigan
DEC. 20, 1943
Vol. 40, No. 16, Serial No. 770
Established 1926.

PUBLIC LIBRARY DEC 22 1943 DETROIT

Inside Dope

By George F. Taubeneck

Mills Marries Ferris
Project Liquidation
Postwar Controls
Long Live the Kings
Postwar Trade
Hydro-electric Dams
With Big Ideas
Refrigerated Air Cargo
Edwina Says
Tax Consciousness
Feather Plastics
Spite Sabotage
War Plant Disposal
Union Profiteers

Mills Marries Ferris

Reddest-faced man in sight this week is not Santa Claus. It is the abashed conductor of this column. Reason: last issue we married Reese Mills, our good friend and longtime bachelor, off to the wrong woman.

We had it right in the headline; wrong in the story. The lucky girl was Charlotte Ferris, who is now Mrs. Reese Mills. Her successor as assistant director of the Westinghouse Home Economics Institute is Camille Beauchamp.

Our only excuse, and it's a lame one, is that the item was written at 3 o'clock in the morning, and things were getting a bit foggy then.

Incidentally, we've never met Miss Beauchamp, but if she's anything like the picture John Kinsey sent when he wrote us about the Mills-Ferris-Beauchamp deal, she could make some man mighty happy. John says she's a specialist in southern cooking, too. The line forms to the right, boys.

Project Liquidation

A good many war projects are being abandoned in view of the changed-for-the-better military situation. Among such are the further development of certain tremendous defensive bases in the Atlantic, the Caribbean, and the Pacific.

Defensive weapons (such as anti-aircraft) are also being cut back sharply.

"Project liquidation" of this variety releases considerable stores of earmarked materials. However, it is not sure whether these released materials can be moved over under the Civilian Supply tent. One potent argument for keeping them and enlarging our stockpiles is the increasingly bad labor situation. Strikes cut into stockpiles sharply—as witness coal.

Postwar Controls

Washington talk is that postwar controls on materials distribution and allocation may continue for a year or more after Japan is wiped up, to check inflation, and to give the smaller firms a fair chance at the stuff they need in order to produce. This probably also will mean an extension of rationing.

Gasoline and oil should be free from restrictions again, and paper, along with a few other items. Controls at this "level" would be kept mainly to avoid bidding up of prices by goods-hungry consumers.

Keeping the lid on after the war is over, however, won't be a bit easy. When that time comes, you can feel sorry for the Administration.

Long Live the Kings

American "liberals" are seething over the apparent compliance of President Roosevelt with the British policy of returning pre-war kings to their thrones. It's really a strain on the family tie.

To most Americans, of course, the

(Concluded on Page 6, Column 1)

Order M-28 Needs Clarifying

Utter confusion exists in the field over interpretations of Order M-28, which proposes to govern the disposition of "Freon-12." If it means what some jobbers believe, hundreds of war plants using refrigeration in essential processing are going to close down, and thousands of factory cafeterias, vital meat markets, and grocery stores are going to be without refrigeration.

That 10-pound limitation has users and service men in a tizzy. It's a waste of time to put 10 pounds into a system which requires thirty. Shall they put 10 pounds in at a time, over a two or three-month period? Some people think that's about all they can do under the order.

How about installations covered by city ordinances requiring "Freon-12?" Does the 10-pound limitation apply to them? And what in blazes is this "ambient temperature" business all about? Is it the prevailing impression in WPB circles that all refrigeration service men are graduates of M.I.T.?

Most jobbers now have "Freon-12" stocks on hand which were allocated to them to fill orders qualifying under paragraphs 4A (essential foods) and 4B (essential industrial uses). Can they go ahead and follow through on these allocations? They don't know. Some jobbers are afraid to sell any "Freon-12" at all now, and their stocks are lying idle.

After listening to dozens of complaints and plaintive queries over the telephone and in person during the last fortnight, we humbly suggest to the powers-that-be that Order M-28 be rewritten in workable and understandable form. Practically none of our overworked, sorely pressed service men and jobbers hold doctors' degrees in law and engineering. Even if they did, we doubt that they could figure this one out.

Million Cubic Feet Additional Freezer Space In New York

NEW YORK CITY—Expansion of freezer capacity here by at least one million cubic feet to help ease storage, transportation, and other problems resulting from huge stocks of food said to be hoarded by the Federal government has been announced by warehousemen, according to the "New York Times."

No new construction is involved in the proposed expansion, for it is intended to convert refrigerated storage space into freezer space by the installation of suitable piping and insulation, a spokesman for the New York warehouse industry told the "Times."

The problem has aroused the Office of Defense Transportation, which recently appealed to the War Food Administration and the Office of Price Administration for assistance.

Charges that foods needed by

(Concluded on Page 28, Column 1)

Crosley Sells Branch In Chicago To Harry Alter Co.

CINCINNATI — In line with the announced policy of the Crosley Corp. to handle its postwar distribution of civilian products largely through independent distributors, the sale of the Crosley factory branch at 1512 South Michigan Ave., Chicago, to the Harry Alter Co., of 1728 South Michigan Ave., Chicago, has just been announced by J. H. Rasmussen, commercial manager of the Crosley Corp.

On Jan. 2, the Harry Alter Co. will take over both the personnel and the physical properties of the Crosley Chicago branch and operate the branch as a part of its merchandising and distributing business in the Middlewest.

The new Crosley wholesale outlet in Chicago is headed by Harry Alter, who has been merchandising electrical and radio appliances since 1920. Associated with him are Leo Alter, vice-president, also with wide experience in merchandising and manu-

(Concluded on Page 2, Column 5)

Dawson Is Elected Alco Vice President

ST. LOUIS—Richard S. Dawson, general sales manager of the Alco Valve Co., for the last four years, has been elected vice president in charge of sales, it has just been announced by Arthur B. Schellenberg Alco president.

Mr. Dawson studied engineering at Syracuse university and the Massachusetts Institute of Technology, later becoming a telephone engineer for the Bell System and taking that company's engineering course.

In 1926 he joined the American Radiator Co., serving as field engineer and with the general sales office in New York, later being transferred to the Detroit Lubricator division as the Philadelphia representative. He moved in 1935 to the Fulton Sylphon Co. as manager of the refrigeration division.

Joining Alco in 1938 as assistant New York manager, he was called to the home office in St. Louis the

(Concluded on Page 2, Column 1)

Explanations Given On Revised L-38

An explanation of the revisions and additions to Limitation Order L-38 (commercial refrigeration and air conditioning equipment) as revised Dec. 6 is published on page 4 of this issue. Full text of the revised L-38 order was published in the Dec. 6 issue.

Flying Icebox Will Carry 40-Ton Load

NEW YORK CITY—Colonial Airlines has announced plans for a postwar flying wing type freight plane capable of carrying a 40-ton payload of refrigerated food at cost claimed to be no more than eight cents a mile.

Under the plans the plane will be built by the Canadian Car and Foundry Co., Ltd., from plans developed by V. J. Burnelli, New York inventor. Refrigerating means was not specified in the announcement.

A lateral loading device will permit 3½-ton containers to be lifted directly from trucks into the plane in much the same manner as "blockbuster" bombs are now loaded into raiding bombers.

Heads A.S.R.E.

* * *

A. B. STICKNEY

A.S.R.E. Announces New Officers and Names Committees

PHILADELPHIA—A. B. Stickney, engineer with Armour & Co. in Chicago, was inducted as president of the American Society of Refrigerating Engineers in the closing session of their 39th annual meeting here last week.

Mr. Stickney succeeds Charles R. Logan of the Superior Valve & Fittings Co.

Other officers elected by the Society to serve for the next year are John F. Stone, vice president, manager of the refrigeration division, Johns-Manville Co.; Charles S. Leopold, vice president, consulting engineer, Philadelphia; John G. Bergdoll, Jr., treasurer, chief engineer, York Corp.

Directors: Dr. Arthur W. Ewell, Westinghouse consultant; Dr. D. K. Tressler, food consultant to the General Electric Co.; Frank H. Faust, engineer, air conditioning division, General Electric Co.; Clifford F. Holske, sales manager, eastern area, Vilter Mfg. Co.; William W. Higham, chief engineer, Universal Cooler Corp.; George I. Boone, manufacturer's representative, Tecumseh Products Co., New York City.

The planned vote of the A.S.R.E. membership on A.S.R.E. Circular No. 25 "Standard Methods of Rating and Testing Forced-Circulation Air Coolers for Commercial and Industrial Refrigeration" was postponed until the 1944 Spring meeting.

It was explained that further work would be done on this code, in the matter of making some changes in the wording, but that no fundamental changes would be made in the engineering considerations involved.

The bid of the Pittsburgh section for the 1944 Spring meeting was accepted, it is understood.

John G. Bergdoll, chief engineer of York Corp., won the annual award offered by the Wolverine Tube Division of Calumet & Hecla Copper Co. for the best paper published during the year in the Society's journal. Mr. Bergdoll was the author of the paper "Recent Engineering Developments in Strato-Chambers."

First winner of the new cash award for the best paper presented at an A.S.R.E. sections meeting went to E. A. Terhune, sales manager of the electric refrigeration and air conditioning division of Servel, Inc., for his paper delivered before the St. Louis section on "Postwar Prospects for Commercial Refrigeration."

Following are the committees

(Concluded on Page 2, Column 3)

Locker Program For First Half Of '44 Okayed

Requirements Stricter On Advance Rentals, Used Units In Cities

WASHINGTON, D. C. — It was learned here today that approval has been given to a program of new refrigerated locker plant construction and expansion of existing plants for the first half of 1944.

While complete details on the program were not immediately available, it is understood that the plans for the first half of 1944 call for around the same amount of construction as the program for the last half of 1943. (This 1943 program set up an $840,000 "metals bank" against which cost of approved equipment for locker plants was charged. It is believed that this program will have resulted in the building of between 400 and 500 new plants).

Requirements that must be met before approval for the locker plant construction will be granted by the War Food Administration have been tightened somewhat.

Those who rent lockers in the new or expanded locker storage plants must all be "producers" of foods. (Whether the term "producer of food" limits locker rentals to farmers is a matter that will have to be subject to interpretation).

In communities of less than 15,000 population 60% of the rentals for the proposed project must be paid in advance. In cities over 15,000 population at least 75% of the rentals must be paid in advance.

A further rule on advance rentals is that a complete list of names and addresses, with the amount of money paid by each renter, must be submitted to the WFA with the application for permission to construct.

It is also specified that there shall be at least 60 families using every

(Concluded on Page 2, Column 4)

In this issue are reports of speeches and comments made by industry leaders at the Refrigeration Industry Forum held in conjunction with the convention of the American Society of Refrigerating Engineers in Philadelphia.

Comments by D. W. Russell, president of Airtemp Division, Chrysler Corp., on "Distribution, Sales, and Promotional Methods for a Greater Industry" appears on page 8. Comments on Mr. Russell's talk by Charles T. Lawson, sales manager, Kelvinator, and W. Paul Jones, vice president, Philco Corp., are on page 9.

H. L. Andrews, vice president of General Electric Co., discusses "Future Demands for Refrigeration and Air Conditioning," starting on page 10. S. E. Lauer, president of York Corp., and M. M. Lawler, sales manager, air conditioning division, Worthington Pump, give their reactions to Mr. Andrews' views on page 13.

Cloud Wampler, president, Carrier Corp., opened the discussion of "Our Industry, the Government, and the Public," as reported on page 16. J. S. Forbes, president of Superior Valve & Fittings Co., and R. E. Cosgrove, vice president of Crosley Corp., add their thoughts to the same subject on page 17.

"Tomorrow's Consumer" as described by Norman Bel Geddes, famous industrial designer, is reported on page 18, followed on page 19 by comments of J. H. Ashbaugh, manager of the merchandising division, Westinghouse Electric & Mfg. Co.

Dawson Promoted

RICHARD S. DAWSON

* * *

(Concluded from Page 1, Column 3)

following year to take up the duties of general sales manager.

Mr. Dawson has done considerable educational work with trade and technical groups, has written a number of technical trade journal articles, edited the Alco "Handbook of Automatic Refrigerant Control," and has served on various A.S.R.E. and R.E.M.A. committees. He is married and has three sons.

WPB Suspends El Paso Firm

EL PASO, Tex.—Sixty-day suspension of priority and allocation rights was imposed Dec. 8 by the War Production Board against William P. Farrow and C. B. Warren, partners in Refrigeration Engineering & Sales Co., 821 N. Mesa St. here, for violation of Limitation Order L-38.

"During the months of January through March, 1943," states the WPB suspension order, "C .B. Warren and William P. Farrow produced at least 10 Farm Freezers of 24 cubic foot capacity, although after Jan. 19, 1943 they had in their possession Amendment 4 to General Limitation Order L-38, issued Sept. 26, 1942, which specifically prohibited such production."

Under terms of Suspension Order S-449, deliveries of material to these men "shall not be accorded priority over deliveries under any other contract or order and no preference rating shall be assigned, applied, or extended to any such deliveries by means of preference rating certificates, preference rating orders, general preference ratings, or any other orders or regulations of the War Production Board unless hereafter specifically authorized in writing by the War Production Board."

Likewise, the suspension order prohibits allocation to these men of any material or products, the supply or distribution of which is governed by the WPB, without specific authorization during the period of suspension.

ASRE Elects 1944 Officers, Appoints Committee Members

(Concluded from Page 1, Column 4)

which will function for the A.S.R.E. in 1944:

Executive Committee: A. B. Stickney, chairman; J. F. Stone, C. S. Leopold, C. R. Logan, J. G. Bergdoll, R. H. Money.

Admissions Committee: A. W. Ewell, chairman; L. B. Kern, E. L. Scanlon.

Awards Committee: C. W. Kniffin, chairman; F. H. Stiening, J. C. Blair.

Constitution and By-Laws Committee: W. R. Hainsworth, chairman; J. E. Wilhelm, F. R. Zumbro.

Education Committee: F. C. Stewart, chairman; W. S. Bodinus, B. E. Short, G. B. Priester.

Finance Committee: J. G. Bergdoll, chairman; G. E. Hulse, Lee C. Leslie.

Membership Committee: R. H. Money, chairman; F. W. McKenna, Nels Rosberg.

Nominating Committee: C. R. Logan, chairman; W. R. Hainsworth, L. L. Lewis, H. D. Andress, L. B. Kern.

Program Committee: C. F. Holske, chairman; H. W. Hottel, R. J. Thompson, C. H. Garrison, W. W. Higham, Harry Klingler, A. B. Schellenberg, F. D. Kirk, W. W. Farr, G. B. Bright.

Publications Committee: D. K. Tressler, chairman; F. H. Faust, D. F. Fisher, G. A. Fitzgerald, B. E. Proctor, D. C. McCoy, M. E. Pennington.

Committee on Relations With Other Organizations: G. S. Leopold, chairman; G. I. Boone, E. Brandt, L. C. Leslie, R. C. Robertson, G. F. Taubeneck, M. Tucker.

Sections Committee: B. E. Seamon, chairman; H. W. Hottel, R. E. Borden, R. DeWitt Pike, H. M. Jones, J. E. Wilhelm, Edward Kellie, C. H. Garrison, Gordon Clarke, F. W. McKenna, R. C. Robertson, Harry Klingler, E. L. Scanlon, A. R. Tiller, L. B. Kern.

Standards Committee: B. H. Jennings, J. G. Bergdoll, S. R. Hirsch, Glenn Muffly, R. T. Brizzolara.

Technical Committee (General): J. F. Stone, chairman; Leon Buehler, P. B. Christensen, A. L. Hesselschwerdt, J. W. Craig.

Tellers of Election: J. J. Corey, C. N. Deverall, I. J. Fajans.

Officers of New Indoor Climate Institute Confer on Drive for Membership

Officers of the newly formed Indoor Climate Institute, viewing the membership invitation brochure, presented at a joint meeting of the Board of Directors and Advisory Council to The Board, held at the Drake Hotel, Chicago, recently. Left to right, (seated) 1st Vice President, T. A. Crawford, Timken Silent Automatic Division; President, Paul B. Zimmerman, Airtemp Division, Chrysler Corp.; Secretary, R. E. Moore, Bell & Gossett Co. (Standing) Treasurer, E. N. McDonnell, McDonnell & Miller; 2nd Vice President, L. N. Hunter, The National Radiator Co.

Crosley Sells Chicago Branch to Alter Co.

(Concluded from Page 1, Column 2)

facturing since 1920; Major Arthur Alter, now in U. S. service, who will resume his duties as sales manager; and Irving Alter, secretary and treasurer.

The territory served by the Harry Alter Co. comprises the northeastern counties of Illinois and Lake county in Indiana.

Industrial Repairs Under Special Rules

WASHINGTON, D. C.—WPB has notified industrial repairmen operating under CMP Regulation 9A that the following special provisions apply to them instead of those in the regulation:

(a) They are authorized to purchase wire of any type, containing up to 2,000 pounds of copper, in each calendar quarter.

(b) They are authorized to purchase up to a total of 2,000 pounds of copper and copper base alloy brass mill and foundry products in each calendar quarter.

(c) They are authorized to apply the preference rating AA-2 to all purchases of materials and parts, instead of the preference rating AA-3 as assigned by the regulation, except AA-1 may be used as provided in paragraph (c) (2) of the regulation.

(d) They are directed to use CMP allotment symbol S-1 instead of CMP allotment cymbol V-3 as provided in the regulation.

(e) They are authorized to maintain an inventory of copper wire not exceeding a 60-day supply.

Locker Program For 6 Months Approved

(Concluded from Page 1, Column 5)

1,400 cubic feet of refrigerated storage space.

Some construction will be permitted in larger cities, it is indicated, but only if a high percentage of used equipment is employed. In cities of more than 25,000 population used compressors must be installed for a new locker storage plant.

In cities of over 50,000 population both the compressor and the evaporator (low side) must be used equiprator must be used equipment.

STANDARD FEATURES OF THE L481B INCLUDE: Calibrated Dial — Direct Reading Scale. Tamperproof shield for adjustment dial. Cold Control Lever. Internal temperature differential adjustment, 3° to 12° F. Extra terminal for reverse action.

RANGES: Temperature: —50° to —10° F., —20° to +20° F., 0° to +50° F., +30° to +70° F., and +65° to +95° F. (Available with cross-ambient bulb in ranges 30 to 70°, 65 to 95°.) H.P.C.O.—100 to 240 lbs. adjustable.

OTHER CONTROLS ALSO ADAPTABLE:

L480B POLARTRON TEMPERATURE CONTROLLER. Same as above except less high pressure cutout.

P421B POLARTRON DUAL PRESSURE CONTROLLER. For control by suction pressure when H.P.C.O. protection is required.

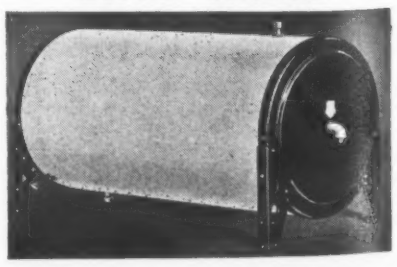
P420B POLARTRON LOW PRESSURE CONTROLLER. For control by suction pressure when H.P.C.O. is not required.

WHEN steel or other metals at 1500° F. are plunged into an oil bath for quenching, it is necessary that the temperature of the bath be quickly restored. . . . The L481B Polartron Dual Temperature and High Pressure Controller controls temperature by means of a remote bulb and safeguards refrigeration equipment from excessive head pressure with a cutout. There is an M-H Refrigeration Control for every purpose, each individually engineered for its particular application. Minneapolis-Honeywell Regulator Company, 2807 Fourth Ave. S., Minneapolis 8, Minn. Branches in principal cities.

MINNEAPOLIS-HONEYWELL REFRIGERATION Control SYSTEMS
THE POLARTRON SYSTEM OF FROST-FREE REFRIGERATION

Filtrine HIGH EFFICIENCY
WATER COOLERS for
DRINKING WATER — FILM PROCESSING
X-RAY — BAKERY SERVICE
JACKET COOLING — SCUTTLE BUTT
INDUSTRIAL PURPOSES — WELDING TIPS
SHIPBOARD (SPECIAL MODELS)
Self-contained and Remote Models
5 to 150 gals. storage.
QUICK SHIPMENT
Forty years of experience in building special cooling equipment. Send us your problems.
FILTRINE MANUFACTURING CO.
53 Lexington Ave., Brooklyn 5, N.Y

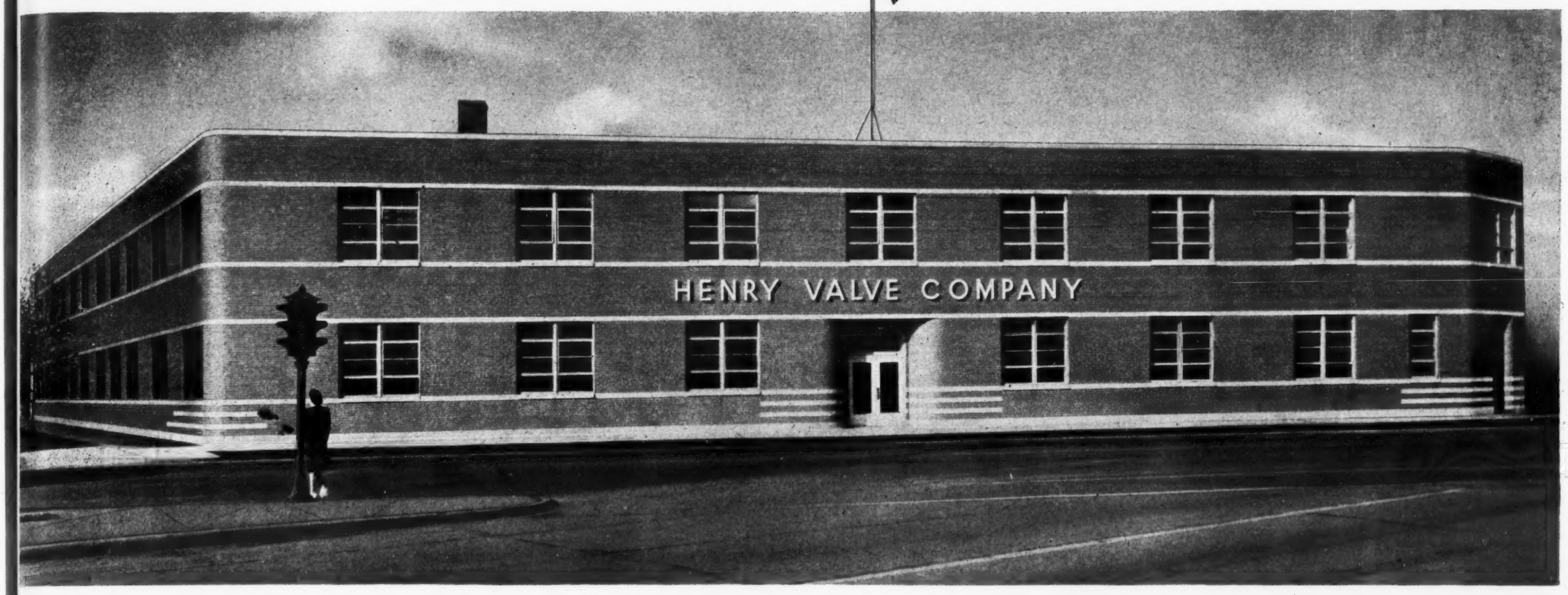
"DAY & NIGHT"
STORAGE TYPE TANKS SAVE SPACE



Compact "Day & Night" Storage Units, such as the Model CE-25 shown above, may be installed any place . . . on walls or ceilings . . . or integral with condensing unit . . . wherever cold water is required for drinking, jacket cooling, photographic processes, cooling welding tips, etc. A modern Scuttlebutt for shipboard use. Supplied on storage capacities from 6 to 100 gallons.

Write For Latest Data
DAY NIGHT COOLER DIVISION
DAY & NIGHT MFG. CO.
MONROVIA · CALIFORNIA
FACTORY REPRESENTATIVES
NEW YORK — A.C. Homeyer, 682 Bdwy. · CHICAGO — Marc Shantz, 565 Wash. Blvd.
ST. LOUIS — R.H. Spangler, 3331 Market St. · DECATUR, GA. — J.E. Parker, 228 2nd St.

HENRY'S "FAMOUS FIRSTS"*... a Story of Progress



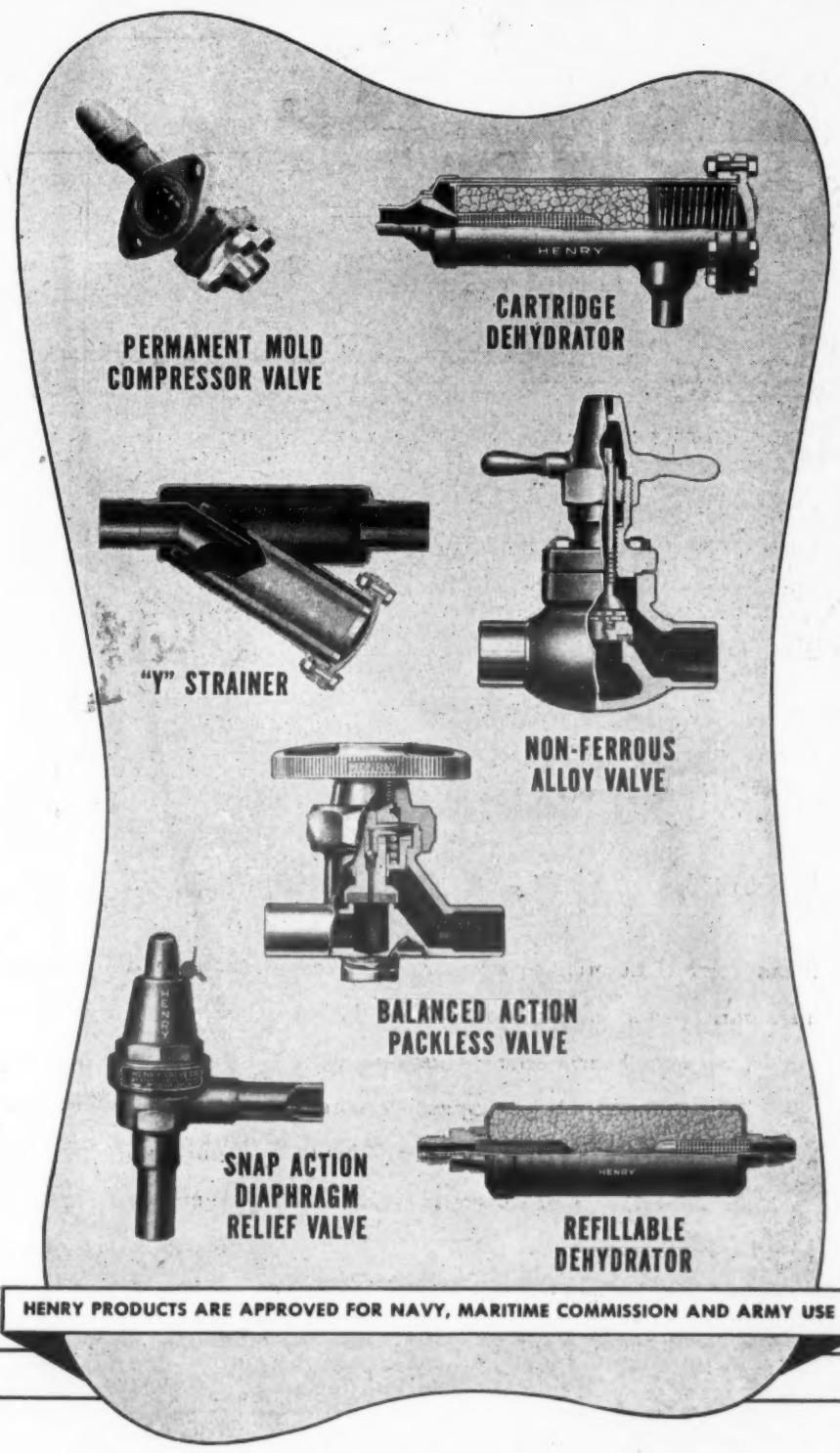
Henry Valves, Dryers and Strainers are now produced in this enlarged modern plant. The foundation of this new Henry Plant is the accepted leadership of Henry Products in design, construction and performance. Their remarkable service records in the air conditioning and refrigeration industry through the past quarter century have created a confidence in the Henry name, and a demand for Henry Products which long ago made this enlarged plant a growing need.

In that it was long planned, this Henry Plant differs from most new plants today. Conceived long before Pearl Harbor, it became an immediate "must" the day the Japs struck. Uncle Sam asked for Henry Valves, Dryers, and Strainers for the air conditioning and refrigeration systems in the Navy's new submarines, destroyers, landing craft, escort vessels, aircraft carriers and fighting ships of every type, as well as for the vital cargo ships of the Maritime Commission. In Army cantonments in this country and in far-flung advance bases, Henry Products are an essential to the well-being of the nation's fighting men. Because of the expanded and improved manufacturing facilities in this new plant, Henry engineers and workers, producers of the Henry "Famous Firsts," are now working more effectively than ever... producing air conditioning and refrigeration products at the nation's "win-the-war" pace.

*HENRY'S "FAMOUS FIRSTS"

The Packless Valve with Ports-in-Line and Balanced-Action...The Wing Cap Valve with Steel Companion Flanges and Separable Brass or Steel Sleeves...The Automatic Pressure Relief Valve with Push Rod for Emergency Re-seating...The Permanent-Mold Iron Compressor Shut-off Valve...The Distortion-Proof Flange for Dryers and Strainers...The One-Piece Drawn Brass Shell for Dryers and Strainers ...The Welded Steel "Y" Strainer...The Abso-Dry Pressure Sealed Dehydrator... The Dispersion Tube for Dryers...The Dehydratector—the Dryer with the Built-in Liquid Sight Port...The Diaphragm Relief Valve.

YOU CAN COUNT ON HENRY FOR MORE "FIRSTS" IN THE FUTURE!


PERMANENT MOLD COMPRESSOR VALVE
CARTRIDGE DEHYDRATOR
"Y" STRAINER
NON-FERROUS ALLOY VALVE
BALANCED ACTION PACKLESS VALVE
SNAP ACTION DIAPHRAGM RELIEF VALVE
REFILLABLE DEHYDRATOR
HENRY PRODUCTS ARE APPROVED FOR NAVY, MARITIME COMMISSION AND ARMY USE

PACKLESS AND PACKED VALVES • STRAINERS • DRYERS FOR REFRIGERATION AND AIR-CONDITIONING • AMMONIA VALVES • FORGED STEEL VALVES AND FITTINGS FOR OIL, STEAM AND OTHER FLUIDS

HENRY VALVE COMPANY

3260 WEST GRAND AVENUE • CHICAGO 51, ILLINOIS

What the Revised L-38 Means in Terms Of What Can and Can't Be Made or Sold

Explanation By WPB Officials Brings Out Some Of the 'Hidden' Features of Amended Order

WASHINGTON, D. C.—Just what the most recent revision of Order L-38 means to the commercial refrigeration and air conditioning industry was indicated in pronouncements by WPB officials last week following issuance of the revised order effective Dec. 6.

The amended L-38 simplifies the procurement of industrial and commercial refrigeration and air conditioning equipment, and permits the production of mechanically refrigerated water coolers for industrial uses.

A more flexible basis for production generally of commercial refrigeration items is now provided in the order. It eliminates insulation materials, whether or not incorporated in insulated enclosures and cold storage doors, from the provisions of the order.

Coils or "low sides" which are incorporated into food processing machinery as defined in Limitation Order L-292, are now eliminated from the restrictions of L-38.

Where reference is made to the term "For direct use by the Army, Navy, Maritime Commission, or War Shipping Administration," this term now includes military exchanges or service departments under Priorities Regulation No. 17. This is a departure from the previous order which required that the delivery of equipment for military exchange and service departments be subject to the same restrictions as civilian deliveries.

WHAT IS 'APPROVED ORDER'

The revised order provides that no person shall deliver and no person shall accept delivery of any new system or new parts except pursuant to an approved order, which may now be any order placed in accordance with CMP Regulations or any preference rating order, any order approved on form WPB 2448 or 2449, or any order for the direct use of the Army, Navy, Maritime Commission, or War Shipping Administration.

This provision does not relax any of the present restrictions on the essential uses for which refrigeration and air conditioning equipment may be delivered, but merely provides for the use of existing CMP regulations and preference rating orders, the use of which will eliminate a considerable number of the applications now received by WPB for smaller equipment.

There is a provision also that no person shall deliver new systems or parts to any person except on an order bearing a rating of AA-5 or higher. This means that deliveries from one manufacturer to another or from a manufacturer to a dealer or distributor or by a dealer to the ultimate consumer can only be made on an order bearing a rating of AA-5 or higher. Formerly the delivery of equipment by a manufacturer to a dealer or distributor was permitted on an unrated order.

5 NEW LIST 'A' ITEMS

Five additional items have been added to List "A," the delivery of which may be made unrestricted, but the production of such items is prohibited for any purpose. The new items added to List "A" are as follows:

Drinking water coolers, non-mechanical.

Drinking water coolers, mechanical, bottle type.

Drinking water coolers, mechanical, pressure type, capacity less than five gallons per hour, 80° to 50° with 80° ambient temperature.

Self-contained air conditioning units, 2 hp. or less.

Wall type display cases, refrigerated.

Although items on List "A" may no longer be produced, the revised order does permit the assembly of any List "A" item if 75% (by weight) of the total material to be incorporated in the item was fabricated and in the producers inventory prior to April 6, 1943 and the material cannot be used in the assembly of any system or parts not shown on List "A."

List "B" items which may be delivered to specified users and for special uses has been revised so that any of the permitted users may assign a rating of AA-5 for the delivery of any of this equipment by a certification in accordance with Priorities Regulation 3, unless the orders are otherwise rated.

Delivery of items on List "B" to other persons may be permitted if they receive an approved order on Form WPB 2448 or 2449.

WATER COOLER CHANGES

Under List "B" mechanical drinking water coolers, pressure type, capacity five gallons per hour and over, may now be delivered without special authorization for direct use by the Army, Navy, Maritime Commission, War Shipping Administration, hospitals, petroleum operators as defined in Order P-98-B, or industrial plants (excluding offices, rest rooms, and recreation rooms) manufacturing any product or conducting any business or activity listed on Schedule 1 of CMP Regulation 5.

Refrigeration systems for farm milk coolers has alos been added to List "B" and may be delivered for direct use by any person who has a purchase certificate from a County Farm Rationing Committee and also to any producer of farm milk coolers operating under Orders L-257 or L-257A.

NEW LIST 'B' ITEMS

Other changes on List "B" include the permitted delivery of mortuary refrigerators to institutions and hospitals and the permitted delivery of portable bulk ice makers for the direct use by the Maritime Commission and War Shipping Administration. Items on List "B" may be produced in accordance with the production provisions of Paragraph (h) of the order.

To eliminate the necessity of the applicant filing both a Form WPB 2448 or 2449 and a WPB 617 where construction is involved, the revised order provides that where the cost of construction (exclusive of the cost of the prime mover, compressor, condenser, receiver, evaporator surface, controls, indirect cooling units and cooling towers) is more than $5,000, the applicant shall apply for the whole project, including the refrigeration or air conditioning systems, on Form WPB 617.

Where the cost of construction is less than $5,000, the system shall be applied for on Form WPB 2448 or 2449 and if authorization is granted it will be accompanied by any necessary permission to "begin construction" under Conservation Order L-41 and no separate application on WPB 617 need be made.

BUYING FOR INVENTORY

As the revised order requires a rating of AA-5 or higher for the delivery of any equipment, Forms WPB 541 or WPB 547 may be used by dealers or others who are not producers and who are purchasing for inventory or resale. If the dealer or other person is at present using Form WPB 547 to obtain ratings for equipment and parts, it is recommended that he continue to use this form in applying for refrigeration equipment and parts for inventory.

A new provision of the order provides that Form WPB 541 may be used where the applicant desires to export or acquire for export any systems or parts. However, delivery of items by the exporter is subject to the restrictions of List "C" (essential uses).

The production restrictions of Order L-38 have been revised so as to provide a greater flexibility of production and to provide a means for producers to begin the production of restricted refrigeration equipment as materials become available.

PRODUCTION SCHEDULES

Beginning Jan. 1, 1944, and during each later calendar quarter, no producer shall manufacture or assemble more or any class of new systems and parts as shown on List "D" than his quota for that class. This is exclusive of repair and maintenance parts. The quota for any class is in terms of aggregate dollar volume and may be the greater of the following two quantities:

1. The dollar volume of all unfilled orders on hand, rated AA-5 or higher, for that class of new systems and parts, or

2. One-sixteenth of the aggregate dollar volume of that class of new systems and parts (other than items on List "A") manufactured by him during the calendar year of 1940, in addition to his current production required to fill all orders for direct use by the Army, Navy, Maritime Commission, or War Shipping Administration.

It is probable that some further explanation of just how this production would be distributed in case there should not be enough rated orders to take it up, will be forthcoming from the WPB at an early date.

Aluminum and Plastics

TEAM UP TO DO A SELLING JOB

Beauty greets the prospect's eye as the salesman swings wide the refrigerator door. (It's a prewar scene, of course, when civilian products were being made.) The designer combined aluminum and a plastic, each material supplementing the other, to give *his* refrigerator the most sales appeal.

Here, fine appearance was the primary reason for using aluminum and plastics in combination. Aluminum also provides high strength, rigidity and permanence of dimensions which are important on many jobs. Furthermore, combining aluminum with plastics adds no unnecessary weight.

Imagineering aimed at doing new things new ways is certain to discover that aluminum and plastics, working as a team, can do many things better than either can do alone. Manufacturers are quite likely to find that their products are improved, production methods simplified and costs reduced.

To engineers who are doing this kind of Imagineering, Alcoa offers assistance. Write ALUMINUM COMPANY OF AMERICA, 1975 Gulf Building, Pittsburgh, Pennsylvania.

ALCOA ALUMINUM

Gilmer BELTS

Air conditioning and refrigeration are essential to much of America's war production. That means that the belts so important to such equipment must be rugged, long-lived, and efficient.

Gilmer Belts are real sales getters in this field, and dealers who stock them are bound to do a tidy service business. Don't miss this chance while it's really hot. Get hold of your Gilmer jobber today.

L. H. GILMER COMPANY
Tacony, Philadelphia 35, Pa.

Schuman Heads Service For Lewis Engineering

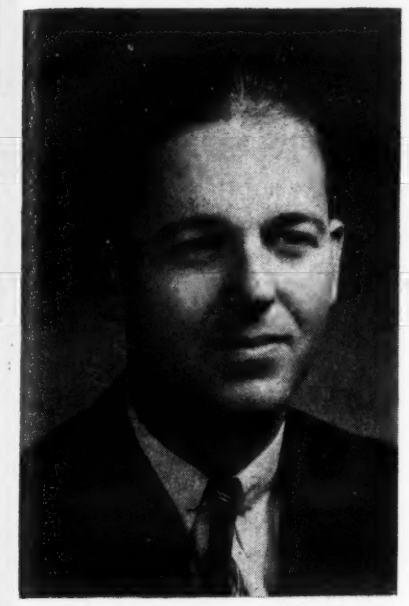
DETROIT — Harold A. Schuman has resigned his position with Brunswick-Balke Collander Co. of Muskegon to become service manager of Lewis Engineering Co., Chrysler Airtemp dealer in Detroit, according to an announcement by Dan H. Lewis, president of the dealership.

Mr. Schuman has been associated with the refrigeration industry in service work for the past 22 years, serving six years in his recent connection. Prior to that time Mr. Schuman worked with Frigidaire branches in Philadelphia and Chicago.

Commercial and Domestic
REFRIGERATOR HARDWARE

NATIONAL LOCK COMPANY
ROCKFORD, ILLINOIS

Duggan and Warren Move Into New Posts With Hotpoint



F. F. DUGGAN
recently appointed manager of the refrigeration sales division of Hotpoint (Edison General Electric Appliance Co., Inc.), had been sales manager of the division before his promotion.

HARRY E. WARREN
now manager of Hotpoint's advertising division, he was formerly manager of the company's refrigerator sales division. He has been with the company for the past six years.

Quick Freezing Will Boom Perishable Food Industry Into International 'Big Business,' Predicts Birdseye

MONTREAL, Que. — Vastly expanding future for the food preservation industry with traffic in perishable foods becoming international "big business," was predicted by Clarence Birdseye, consultant to General Foods Corp. and Frosted Foods Sales Corp. in a lecture at McGill University here.

For the field of refrigeration, Mr. Birdseye foresaw the following advantages as a result of the predicted food processing expansions:

Warehousing facilities will be increased all over the world; most of them will be refrigerated and will provide both cool-storage and sub-zero temperatures.

Better refrigerator cars in both the United States and Canada may be expected in which lighter materials will be used in car construction; better axles will increase speeds and more uniform temperatures will be maintained throughout the runs.

More refrigerated trucks will be on the road and will continue to compete with rails.

DOUBTS MUCH AIR TRAFFIC

On the other side of the picture is Mr. Birdseye's contention that:

Refrigerated ocean transport will become a serious bottleneck.

Air transport will probably not move large quantities of either fresh or preserved perishable foods in the postwar era.

"Few people realize the tremendous size and scope of the perishable food industry," said Mr. Birdseye. "It is not only the largest human activity, but is as large as any several other industries combined. The automotive, communications and steel industries, for instance, are mere pygmies compared with the preservation and distribution of perishable foods."

In the United States in 1939, he said, the production of processed food or kindred products, not including beverages, accounted for 25% of all manufacturing plants, nine cents of every dollar invested in such plants, approximately 10% of all persons employed in manufacturing, and 17 cents out of every dollar's worth of manufacturing goods.

Referring to advances in store for the food preservation industry, Mr. Birdseye said postwar domestic refrigeration would likely include low temperature space sufficient for storing several days' supply of frozen foods; means for maintaining humidities sufficiently high to keep fresh vegetables from wilting; automatic ice-making facilities; increased storage capacity and greater convenience.

CHANGES IN MEAT HANDLING

He predicted that in the future, fresh meats would be reduced to consumer cuts at the packing house. A more efficient use would thus be made of the bone and fat eliminated by this process, he added, and much shipping space would be saved.

Mr. Birdseye declared that such food preservation methods as salting, smoking, sun-drying, pickling and combinations of such systems are likely to be supplanted by processes which would deliver perishables to the consumer in more convenient, appetizing, compact and nutritious form.

WILL USURP FISH MARKET

He expressed belief that quick-freezing, which is simply a process of freezing foods so rapidly that their intrinsic freshness is not materially impaired, would usurp a large proportion of the fresh fish market.

He said that quick-freezing, in addition to preserving food, makes possible a great saving in tinplate. One million pounds of quick-frozen peas require as containers only 87,000 pounds of cardboard, 7,000 pounds of cellophane, and 9,000 pounds of waxed paper. If canned, the same million pounds of peas would, he said, use more than a million No. 2 cans composed of 4,038 pounds of pure tin and more than 250,000 pounds of steel.

ARMY E NAVY

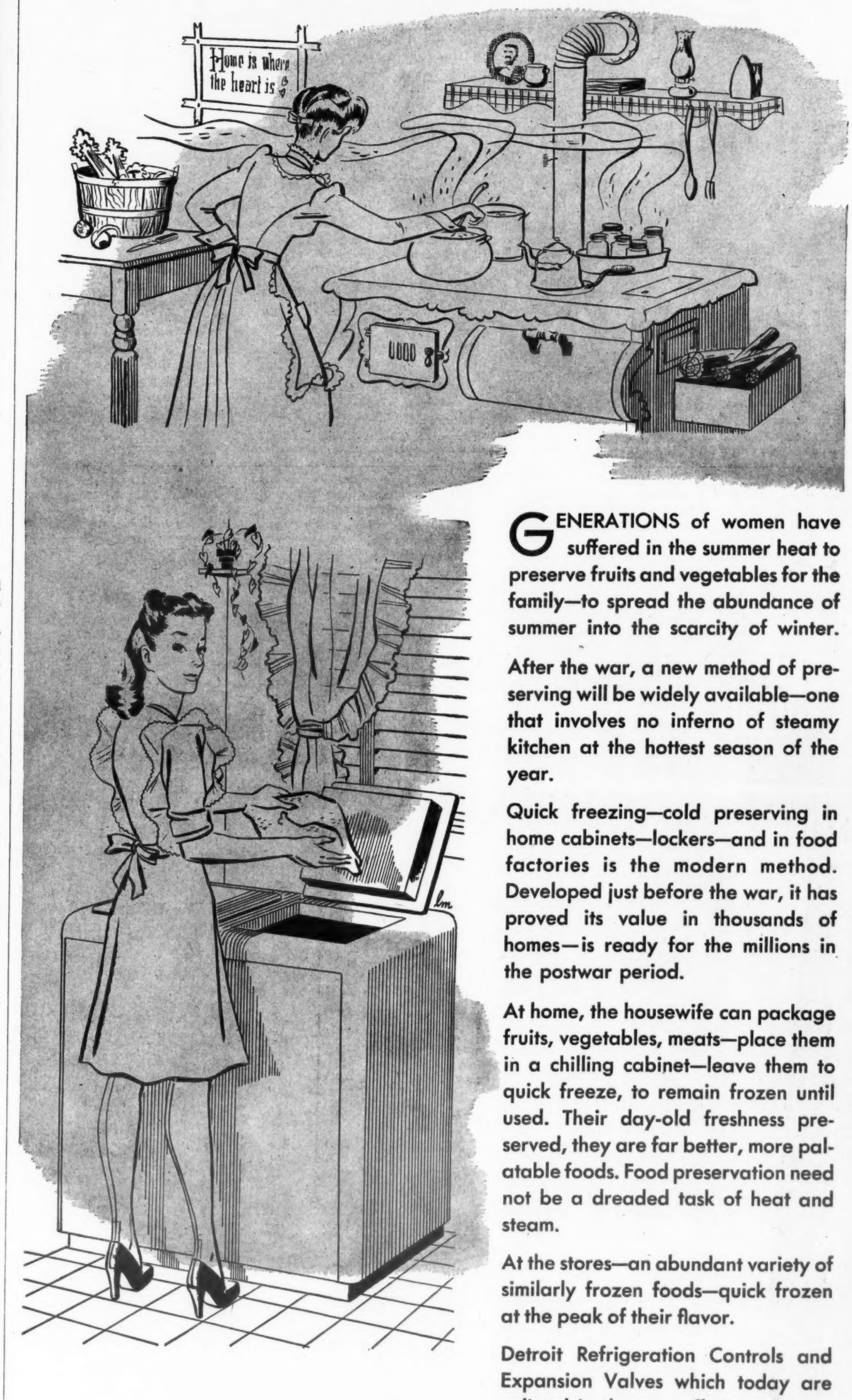
TODAY'S TASK IS FIRST—
but Tomorrow is not Forgotten

Today the energy, the skill, and the facilities of M. & E. are devoted entirely to military production. But the engineering mind soars to tomorrow—plans and dreams better refrigeration. New and better metals—more sensitive controls—finer tolerances—greater stamina—more power. That the day comes soon when these ideas can take concrete form is the hope of all of us.

M&E EST. 1866

MERCHANT & EVANS COMPANY
PHILADELPHIA, PENNA. • Plant: LANCASTER, PENNA.

"Canning" Postwar Style



GENERATIONS of women have suffered in the summer heat to preserve fruits and vegetables for the family—to spread the abundance of summer into the scarcity of winter.

After the war, a new method of preserving will be widely available—one that involves no inferno of steamy kitchen at the hottest season of the year.

Quick freezing—cold preserving in home cabinets—lockers—and in food factories is the modern method. Developed just before the war, it has proved its value in thousands of homes—is ready for the millions in the postwar period.

At home, the housewife can package fruits, vegetables, meats—place them in a chilling cabinet—leave them to quick freeze, to remain frozen until used. Their day-old freshness preserved, they are far better, more palatable foods. Food preservation need not be a dreaded task of heat and steam.

At the stores—an abundant variety of similarly frozen foods—quick frozen at the peak of their flavor.

Detroit Refrigeration Controls and Expansion Valves which today are enlisted in the war effort, tomorrow will be ready to further this revolution in good eating.

DETROIT LUBRICATOR COMPANY
General Offices: DETROIT 8, MICHIGAN
Division of AMERICAN Radiator and "Standard" Sanitary Corporation
Canadian Representatives—Railway and Engineering Specialties Ltd., Montreal, Toronto, Winnipeg

★ "DL" Heating and Refrigeration Controls • Engine Safety Controls • Safety Float Valves and Oil Burner Accessories • Radiator Valves and Balancing Fittings • Arco-Detroit Air and Vent Valves • "Detroit" Expansion Valves and Refrigeration Accessories • Air Filters • Stationary and Locomotive Lubricators ★

Inside Dope

By George F. Taubeneck

(Concluded from Page 1, Column 1)

whole idea of monarchy is anethema. Most of the kings are related to the British royal family, of course, and commitments were long ago made in London, where they now hang out.

The British theory that having the European thrones occupied by a flock of cousins and uncles helps to keep the peace hasn't seemed to work out so well in the Twentieth Century.

But they still figure it's a valid theory. Could be.

Postwar Trade

Whenever anyone starts to talk about the tremendous possibilities for the postwar export business, some belittler is sure to pop up with the difficult question:

"Yes, but how are foreign nations going to pay for our products? Do you think for a moment that Congress will permit imports of foreign products and raw materials, produced with cheap labor, to compete in our domestic market?"

Well, there's an answer to that now. It is to be found in the drastic depletion of America's raw materials to fight this war. Our high-grade oil reserves are being burned up at an alarming rate. The same goes for our best iron and copper ore, and nearly all our minerals, as well as our hardwoods and other timber.

America seems destined to become an importing nation whether she wants to or not. And that may not be so worrisome a situation as it seems at first glance. Imports will give other nations the dollar balances they need to buy the American manufactured goods they want.

Refrigeration should certainly benefit, because we have the world's only integrated refrigeration industry, and are so far ahead of other nations in this respect that they may never catch up.

Hydro-electric Dams

Among the postwar public works programs now being blueprinted is one which will interest the public utilities people—and the makers and sellers of electric appliances.

The Bureau of Reclamation has quietly prepared a $6 billions program for the erection of hydro-electric dams, to provide employment, flood control, irrigation and additional power.

It is said that the Army Engineering Corps is in on the deal, too.

We're going to have to sell millions of electrical appliances to use up all the power which will be available to the nation after the war as it is. If this deal goes through, well, you can picture the possibilities.

With Big Ideas

John Clifford Folger, president of the Investment Bankers of America, declares that the decade following the war will be the greatest investent era in history.

He believes that the Securities Act must be revised because "the little fellow with the big ideas needs easier access to the capital market."

Refrigerated Air Cargo

Will refrigeration play a big part in the air freight of the future? Wayne Parrish, editor and publisher of "American Aviation," believes so.

His theory is that the airplane will never be used to transport heavy freight like coal, steel, and machinery. However, he sees great advantages for air freight over trucks and railroads in the moving of refrigerated foods.

It now takes two weeks to move refrigerated pork from Iowa to the Pacific Coast by rail, he points out.

"No 400-miles-an-hour airplane is needed to ship this pork by air," he contends. "At 100 miles an hour, a cargo plane equipped with refrigeration can move this pork at rates attractive to the shipper.

"A time of 15 hours is far under the two weeks time by surface now required."

Prof. Sleeter Bull of the University of Illinois—and detractors—please note.

Edwina Says

Notable quotation:

"Do you think the woman who has operated an automatic machine in a factory is going to be content to do housework manually when the war is over? There will be the greatest demand ever by women for automatic household equipment after the war.

"High frequency cookery, whereby the present two and a-half hours required to cook a medium-size roast is reduced to a few minutes, may increase the homemakers' efficiency a hundredfold over the method she now uses."

The speaker: Edwina Nolan, brainy mentor of the G-E Consumer Institute. (And in private life, wife of the equally brainy Walter Daily of the Ray Durstine advertising agency).

Tax Consciousness

One of the major reasons for Congressional reluctance to boost income taxes is the new tax consciousness of millions of hitherto-exempt wage earners.

These millions, who formerly considered income taxes as a lovely means of soaking the rich, now find that such taxes make an appreciable dent in each week's pay envelope. And they are looking upon government extravagance with an altogether different view. Congressmen are hearing from them.

Mr. Ruml started something. And about time!

Feather Plastics

Swunnerful what war-inspired searches for substitutes will bring to light. Take feathers, for instance.

Believe it or not, the Department of Agriculture has a Federal Feather Committee. Funny as it may sound, this committee has turned up something interesting and useful.

Their experiments show that chicken (and other fowl) feathers make an excellent base for ultra-strong plastics. After dissolution in an acid bath, chicken feathers become a material with all sorts of possibilities.

Spite Sabotage

Periodically you hear rumors about the German School for Saboteurs, which will shortly land on our shores to do devastating damage. So far they haven't shown up, but we've had sabotage, just the same.

J. Edgar Hoover's alert FBI men have investigated more than 12,000 sabotage cases in the last three years; but less than 500 have resulted in Federal court convictions. And even among the 500 only a dozen or so were truly deliberate attempts to checkmate war production.

Practically all of these "sabotage" cases were spite efforts. That is, the offenders threw a monkey wrench in the machinery to "get even" with a foreman or boss they didn't like.

The remainder of the cases were the result of simple horseplay on the part of youthful workmen.

Even in wartime you can't abrogate human nature.

War Plant Disposal

They say "there's nothing so timid as a million dollars." And it's true that the higher income and wealth bracket you encounter, the more likely you are to find fear of the future. Those with most to lose seem most afraid they'll lose it.

Right now a big worry in the minds of some of our bigger capitalists is what the government may do with all the war plants it now owns or controls. Will these be kept in operation to compete with private capital?

During the war we have erected some $19 billions in new plant facilities. Nearly half of these are privately owned (and taking advantage of the special five-year depreciation provision engineered by Leon Henderson).

Of the remainder, it is estimated that some $4 billions worth can be converted to peacetime uses, and may be purchased under option by their present operators or by other private capital. What about the rest?

The figures are scary, but don't reveal the true situation. Actually, the bulk of these wartime productive facilities turn out raw materials, such as rubber, aluminum, magnesium, and steel. A great investment, of course, has gone into aircraft and shipbuilding facilities which either must be scrapped or held as standbys after the war—but which can't be figured as competitive threats to private industry.

As to the tin and rubber plants, it is held that they can be kept in use with economic justification. Particularly will this be true when industry has more experience with their utilization, and becomes able to meet foreign competitive prices.

The aluminum plants are expected to attract plenty of private capital, because aluminum has so many postwar possibilities. Steel will probably be in oversupply, as will magnesium. Especially the higher-cost plants are thought to have little economic reason for continued life.

After you leave these fields, however, the problem seems to evaporate. Certainly no manufacturer in the refrigeration industry can have much to worry about.

Union Profiteers

Outside of the tool-and-die partnerships, the only real profiteers in this war are the labor unions, which have no income taxes to pay.

The National Labor Relations Board estimates that dues-paying union members have more than doubled during the war period. They are presently estimated at more than 13,000,000 members.

In the past (especially in the jerry-built C.I.O.) a large percentage of the members was always in default of dues. Now they are practically all paid up in full.

Executives of corporations which administer the check-off are absolutely flabbergasted when they estimate the income of their unions. It is said that the sums now held begin to approximate life insurance company figures.

If this be true, the unions will emerge from the was as one of the largest capitalistic concentrations in the country. Already they have large holdings of real estate, bonds, and even common stocks!

You can draw all sorts of conclusions from that. It's obvious that the union leaders, the men in charge of these enormous accumulations of capital, will become more eager for power. That always happens.

It's also likely that they will become more conservative, as have the wealthier of the A. F. of L. unions in the past. Again it is quoted: "There is nothing so frightened as a million dollars."

Artic
REG. U.S. PAT. OFF.
(DU PONT METHYL CHLORIDE)

DU PONT
REG. U.S. PAT. OFF.

SERVICE NEWS

WAR-TIME NEWS LETTER

Dear Sir:

If you need Methyl Chloride...order it now. We can take care of present requirements...promise fairly prompt deliveries provided empty cylinders are returned quickly. Still in need of a better return of empties ...if you and others continue doing your part... Methyl Chloride shipments will roll.

About using Methyl Chloride in equipment designed for other refrigerants...be careful. Don't do it until you are absolutely certain the change can be made. You should consult the company which built the equipment. Obviously, they know and can tell you whether Methyl Chloride should be used; also what changes are required to conform with the Safety Code.

Did you read what Paul Reed of Servel wrote recently for R.S.E.S. about change-over? It's worth reading. See Trade Press.

If refrigerant change can be made, be sure to get out all of the old refrigerant.

Before charging with Methyl Chloride, thoroughly clean and dry the equipment.

Change the controls for proper handling of Methyl Chloride.

Adjust compressor speed to give required amount of refrigeration.

Be sure to use correct amount of the right kind of lubricating oil.

Then, look over the job, check it carefully to be sure it conforms with the American Standard Association Safety Code.

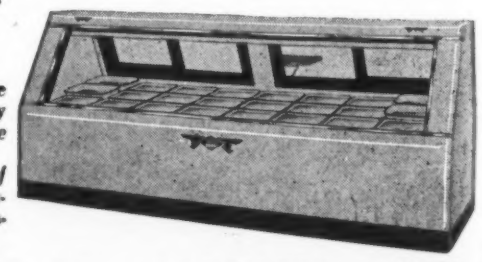
Very truly yours,
Thomas Coyle
THOMAS COYLE
Manager, Chlorine Products Division

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

SELL
SHERER
YOUR LOGICAL SOURCE FOR
Refrigerator Equipment

Limited Number of all Types Available Without Priority For Immediate Shipment

A reliable source for a complete line of refrigerated display equipment. *Write for franchise details.*
Also available . . . all types of reach-in refrigerators and walk-in cooling rooms for government procurement agencies.



SHERER-GILLETT CO., MARSHALL, MICH.

The Priorities Quiz

(AIR CONDITIONING & REFRIGERATION NEWS, with the aid of a man who is actually engaged in handling much priorities work, will attempt to answer questions from readers about priorities problems. The editors will not guarantee to answer all questions, nor can they guarantee that the answers will be legally perfect, but an effort will be made to provide a guide to correct procedure wherever possible.)

Standard Form of Certification Provided

Q. Some suppliers request a different certification on our orders than other suppliers do. Is there not some standard form of certification which can be used to cover all orders? This would simplify placing orders and make it unnecessary for us to keep a number of rubber stamps on hand.

A. The approved form of standard certification according to Priorities Regulation No. 7 as amended Nov. 27, 1943 is the certification which was issued when the Controlled Materials Plan went into effect and is found in CMP Regulation 7. This certification may be used in place of all other certifications regardless of whether you are or are not extending a CMP allotment symbol as well as a preference rating. It reads as follows:

"The undersigned purchaser certifies, subject to the penalties of Section 35-A of the United States Criminal code, to the seller and to the War Production Board, that, to the best of his knowledge and belief, the undersigned is authorized under applicable War Production Board regulations or orders to place this delivery order, to receive the item(s) ordered for the purpose for which ordered, and to use any preference rating or allotment number or symbol which the undersigned has placed on this order."

There are a few cases where this standard certification may not be used but as a general rule, the certification quoted above is acceptable in lieu of any other certification such as the certification in Priorities Regulation No. 3, the P-126 certification, the PD-1a certification, etc. A list of certifications for which the standard may not be substituted is given in Priorities Regulation No. 7 dated Nov. 27, 1943.

New PD-1X Form Is Likely In January

Q. Has Form PD-1x, the application for a wholesaler's priorities been withdrawn? We have had difficulty in securing copies from our Regional Office of the WPB.

A. No. PD-1x (Now WPB-547) is still in use. However, a simplified version is under consideration and is expected to be released soon, probably in January and the War Production Board has asked that retailers and wholesalers who use this form should not order more than they need for immediate use as the new printing is held up waiting for the approved changes. It is expected that the new form will take less time for you to fill out and less time for the War Production Board to process.

Repair Shop Sought Raw Brass and Steel

Q. We filed a CMP-4B application for an allotment of steel and brass raw material for use as a refrigeration repair shop. Our application was returned denied with some reference made to CMP regulation No. 9-a. Can you explain to us how we get raw materials we need for repair work under this regulation?

A. CMP regulation No. 9-a which makes provision for parts and materials for repair men, is a new order issued Nov. 25, 1943. It makes it unnecessary for any repair shop to file application for raw materials or for a preference rating to buy parts for repair work if he does not use more than 20 tons of carbon and alloy steel or more than 500 pounds of copper or brass products or more than 200 pounds of aluminum. A repair man may buy as much other material and repair parts as he needs under this regulation except that he may only buy each quarter $150 worth of copper wire or one-eighth of what he used in 1941.

When buying materials and parts under CMP Regulation No. 9-a within the limits mentioned above, a repair man puts on his order CMP allotment symbol V-3, preference rating AA-3, and the standard form of priority certification. A repair man may not use the rating and allotment symbol provided by this regulation to increase his inventory of parts and materials beyond that which he may need to continue his repair and maintenance service for a 60-day period according to his current method of operation.

If the repair man does repair work for persons who have the right to use a preference rating higher than AA-3 for their own repair and maintenance work, the repair man may use his customer's rating either to buy what he needs to do that customer's work, or to replace in his own inventory what he has already used in servicing that customer's equipment.

A repair man can get more material than the limits specified above to do work of any industrial nature to the extent of 2,000 pounds of copper wire and 2,000 pounds of copper and brass products and may be authorized to use an AA-2 preference rating by writing to the War Production Board, reference CMP Regulation No. 9-a, Washington, 25, D. C. and in that letter telling the kind of work he is doing and the kind of customers he has. In these cases, the War Production Board is authorizing on Form CMPL-523 the use of AA-2 preference rating and allotment symbol S-1 in the same manner the AA-3 rating and the V-3 symbol is used.

The V-3 symbol and the AA-3 rating, however, are automatically available to the extent mentioned. You do not need to make an application to use them for your repair parts. This regulation is a part of the War Production Board's simplification program and it is believed that it will eliminate many applications which formerly were sent to Washington by innumerable repair shops.

Judson C. Burns Co. To Handle L & H Ranges

PHILADELPHIA—The Judson C. Burns firm here has been appointed distributor of L & H electric ranges, water heaters, and gas ranges in the Philadelphia area, eastern Pennsylvania, southern New Jersey, and New Castle, Del. The L & H line is manufactured by Lindemann & Hoverson Co. of Milwaukee.

Burnham Will Operate San Diego Service Firm

SAN DIEGO, Calif.—Burnham's Refrigeration Service is the firm name under which John C. Burnham has published an intention to conduct business at 3801 El Cajon boulevard, San Diego.

Scranton, Pa. Hospital Polls Doctors, Abides by Vote For Air Conditioning

SCRANTON, Pa.—When the Hahnemann hospital in Scranton decided to remodel the part of the hospital containing the operating rooms, Superintendent L. R. Robbins, Fellow of the American College of Hospital Administration, polled the surgeons on the hospital staff regarding the desirability of air conditioning the operating rooms.

Opinion was unanimous that air conditioning would provide five advantages:

1. Temperature control winter and summer.
2. Humidity control to prevent patient dehydration in winter.
3. Humidity control to prevent static spark danger.
4. Elimination of dust and dilution of odors.
5. Comfort for surgeons and nurses.

It was decided to install air conditioning equipment for two operating rooms, one anesthetizing room and a lobby into which these three rooms open. To meet the requirements, it was decided that each room should be provided with individual and separate control of temperature and humidity, that the system should provide ample ventilation, should operate quietly without objectionable noise and that the air distribution should be of the type to assure complete freedom from drafts.

The engineers of the Power-Engineering Corp., Carrier distributor in Wilkes Barre, Pa. submitted a design to meet these requirements. As a result, a central type Carrier "Weathermaker" was installed with individual zone control for each room and with distribution through ceiling diffusers.

The system is fully automatic at all seasons, operates with 100% outside supply air with exhaust through a sterilizing room which is located between the two operating rooms. The system has given very satisfactory results over a three-year period and is considered a marked improvement in design of air conditioning systems for operating rooms of this type.

Numerous interesting problems arose in the course of the installation. For example, since the rooms served included spaces where explosive gases are handled, the controls for the unit could not be located in the room where an electric spark might set off the gases. As the air conditioning unit is located in an attic that is none too accesible, it was not practical to locate the controls in the supply and return line in the attic.

To meet these restrictions, a remote bulb type control was used. The thermostat was put in the attic, with the control panels located in the air conditioned room. This made it possible to regulate the controls from the space and still have the electrical portion isolated.

The Hahnemann hospital is exceptionally modern throughout.

FROM RUBIES...TO RUBBER...FOR WAR!

HERE IS an almost unknown chapter in America's war record.

It is the story of owners who voluntarily relinquished equipment—who in a very special way put aside self-interest to speed victory.

In the store of Tiffany & Company on Fifth Avenue there was a Carrier Air Conditioning System. Its heart was a Carrier Centrifugal Refrigeration Machine.

This machine was needed for the manufacture of synthetic rubber—that "America & Company" might have tires more quickly.

And so Tiffany & Company permitted this essential part of their store equipment to *forsake rubies for rubber.*

But this is only one chapter of the story. Many of America's great stores have rendered similar service...have given our country a priceless gift: Time! . . . the months it would have taken to build new Carrier machinery.

And in War, *time* saved means *lives* saved.

When the world turns from war to peace, Carrier Air Conditioning will again contribute to man's progress . . .whether on Fifth Avenue . . . or in factories that will make the dreams of daring men come true.

CARRIER CORPORATION, Syracuse, N. Y.

AIR CONDITIONING **Carrier** REFRIGERATION

Distribution, Sales and Promotional Methods For a Greater Refrigeration Industry

PHILADELPHIA.—"Refrigeration will become a large industry by being above all, promotionally minded—willing to build organizations that will ring doorbells," declared D. W. Russell, president, Airtemp Division, Chrysler Corp., in speaking on "Distribution, Sales, and Promotional Methods for a Greater Industry" at the Refrigeration Industry Forum here.

"These bells," said Mr. Russell, "will be on factories, farms, residences, and many other places. The selling organizations will handle the information given them to tell every segment of the public what air conditioning and refrigeration can and will do for them—that it will save money and make life more worth living."

Two main things are required to obtain the kind of a "big industry" status of which the refrigeration field is capable, said Mr. Russell. These are:

1. A line of products that gives 12 months of selling and distribution.
2. Simplified application data that can be used by the average salesmen, in most cases, and not requiring an engineer as a salesman.
3. A promotional policy that constantly feeds distribution with new outlets, applications, and methods.
4. A constant study of new uses, new methods, and replacement ideas.

In drawing these above conclusions, Mr. Russell made the following observations about distribution in general, and distribution in the refrigeration and air conditioning fields in particular:

Usually during the introductory stage of a technical product, the engineer is the salesman, through a period generally approximating 15 years. It is this type of selling that is necessary to introduce technical products that are later sold to the public over the counter.

As a general rule, we could say, whether it be washing machines, refrigerators, or automobiles, that this type of selling was usually necessary until the market was well past 100,000 units per year.

The next step that has been followed is the move to specialize distribution, where an individual or a company sets up an organization to specialize on the sale of the product—and usually this has gone through about a 15-year period.

The third step has been that the acceptance of the product has developed to a point that almost any kind of a dealer or department store can sell it, and with this step we are not interested, because it is in the future.

The kind of distribution the air conditioning and refrigeration industry needs is:

1. Distribution that will serve the buyer.
2. Distribution that will promote the use of refrigeration.
3. Distribution that will serve the products when they are put in service.
4. Distribution that will level the curve of production in manufacturing plants.
5. Distribution that will make a satisfactory profit for itself and for manufacturers.
6. Distribution that can and will make this one of the big industries.

The washing machine is a good example. The first distribution of washing machines was a hardware store—that is, a wash tub and scrub board—then came the wringer. It needed no instruction in its use—it had no adjustments or connections.

Then step by step we came to a mechanical washer, needing selling and instructions on how to use it.

Some manufacturers stayed with the hardware store. Check this—they either changed their distribution, or you might find out what their stockholders recovered.

The automobile manufacturers started with what almost amounted to jobbers, and then progressed to large distributors covering one or more states and hitting only the high spots. Many people do not even remember this phase of the automobile business, but it happened.

Then, one manufacturer had the idea that he needed to reach all the people, and consequently arranged for distribution that really covered the territory, rather than "high spotting"—distribution that attempted to sell everyone.

Not only did they find that it was necessary to reach people in every community in order to sell them, but after they were sold they needed a service point in that community in order to keep the automobiles running and keep them sold.

This system quickly proved its worth to the automobile industry. Shortly all manufacturers began to change, and in a comparatively few years none of the jobber, mammoth, high-spotting distributors remained in the industry. The change resulted in distributing organizations that have made satisfactory financial returns above most businesses.

One question I was asked many times eight or nine years ago was, "How did Chrysler Corp. suddenly put Plymouth over in the low-priced field when so many other manufacturers had tried a low-priced car, and didn't even dent their competition?"

There are, of course, many reasons, but my personal opinion is that the day Plymouth was launched in the low-priced field there were several thousand Chrysler Corp. dealers already organized—with places of business and trained sales and service organizations ready to sell and service Plymouth cars.

SERVING THE BUYER

An individual or a company with a place of business, and with at least one competent application man, is required. Also, there must be a product to show in a place where a potential customer may come or be brought by the salesman—an establishment from whom he may buy with confidence, knowing that the unit purchased will do his job well.

How many such places in this industry do you know which are also known to the great mass of potential purchasers? How many such places in your city or community can you name, selling radios, refrigerators, washing machines, automobiles, etc.?

Again, how many distribution agencies in our industry do you know who have rung doorbells and extolled the things that can be accomplished by air conditioning and refrigeration, as did the distributors of vacuum cleaners, washing machines, etc.?

When those industries were at the milestone on the road to greatness, at which we find ourselves today, distribution, with the guidance of the manufacturer, told their story to everyone who would listen, found and sold customers who had not thought of buying their equipment—customers who did not know what it would do for them.

We have reached the time to quit bidding for the business of those who must have our equipment, and begin to promote the use of our equipment in additional places.

SERVING THE PRODUCTS WHEN THEY ARE PUT IN SERVICE

If an industry is really to come into great public acceptance, the products of most of the better companies must be good and give excellent service.

It must be an interested service, one that believes the machine is good, and is financially interested in its good performance. This service should return a profit to distribution.

Probably all of us can name a few cases where the distribution is so set up that both owner satisfaction has been maintained and assured, and a proper financial return has been made by distribution. For a big business, at least three ciphers should be added behind the number I know.

And, incidentally, this service business has maintained most of these distribution agencies during this time of stress and can be made to do so during the next one.

LEVELLING THE CURVE OF PRODUCTION

In most major industries, there is distribution over the entire country that is sufficiently familiar with the line of products handled and with the conditions of the territory that it can make an excellent estimate of the model and number of the units which will be sold in the coming year. In fact, some of the industries mentioned in this talk have proved that these estimates can be within 10% of actual figures.

We believe that the refrigeration industry can build distribution that can estimate better than 50% accurately, and this is just 50% better than we have now under the present methods of distribution. They can warehouse some of these products 30 days to four months in advance.

What has this to do with distribution?

1. You stabilize employment in the plant and insure a continuous supply of labor with "know how." Consequently, you obtain a consistent and a much better product.
2. The manufacturer can adjust the plant to the most economical level for the volume, and thereby make the most favorable prices.
3. With a definite volume ahead, you can often afford better tooling and again assure lower prices.
4. A pre-determined volume often allows commitments for materials that will affect the price structure.
5. Lower prices broaden the market.

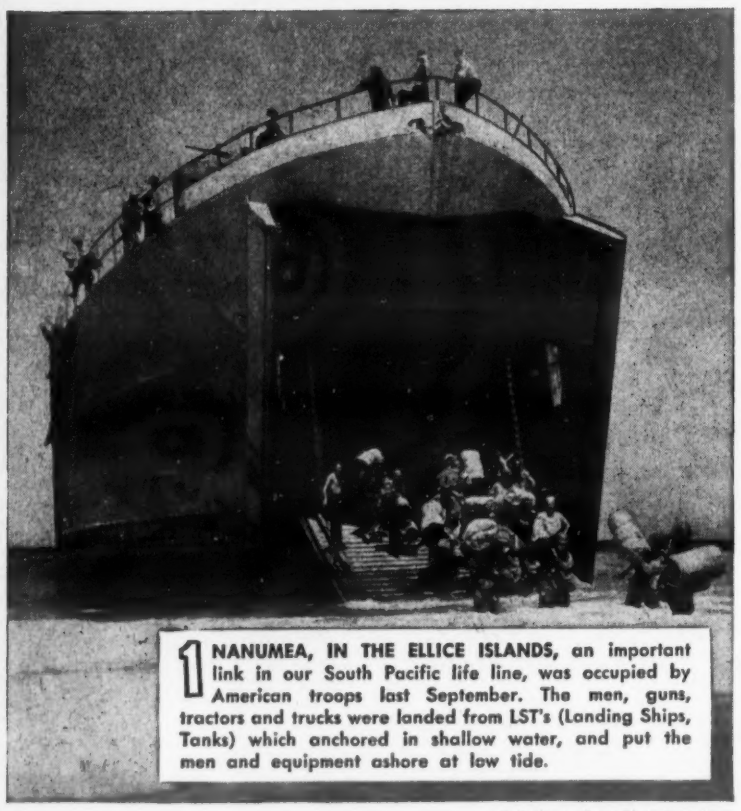
The automobile and domestic refrigerator are excellent examples.

Only through a satisfactory profit can capable men be kept interested, working, and connected with this industry. An organization must have this profit if it is to obtain character and standing in a community. It must have profit if it is to carry its part of the load in promoting this industry.

One subject upon which is placed a big question mark for the postwar era is that of the nature of distribution of refrigeration products. Some of the most interesting commentaries made thus far on this subject were given by D. W. Russell of Airtemp, C. T. Lawson of Kelvinator, and W. Paul Jones of Philco at the *Refrigeration Industry Forum* held in conjunction with the annual A.S.R.E. convention, and published on this and the following page.

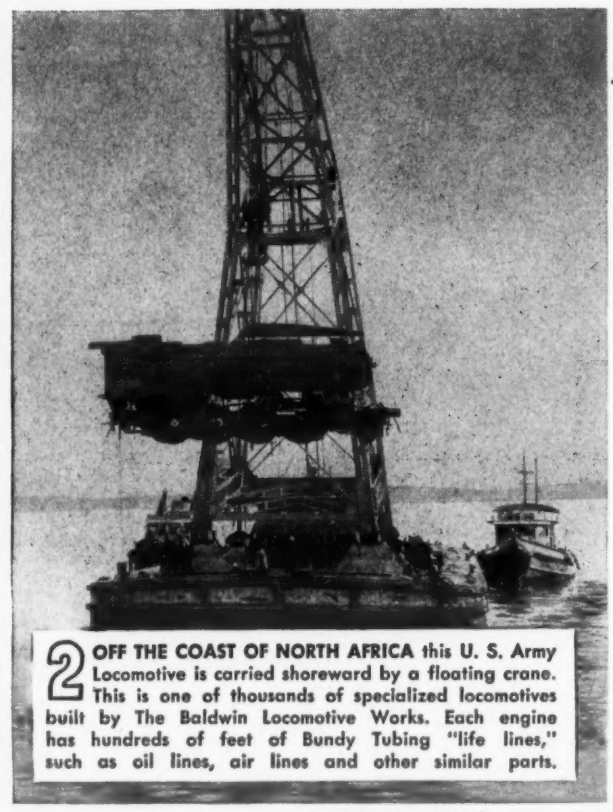
These Forum speakers were generally agreed that the old pattern of independent distribution—contrary to many rumors—would be maintained, but that it will have to be bigger and better.

FAMOUS LIFE LINES



1 NANUMEA, IN THE ELLICE ISLANDS, an important link in our South Pacific life line, was occupied by American troops last September. The men, guns, tractors and trucks were landed from LST's (Landing Ships, Tanks) which anchored in shallow water, and put the men and equipment ashore at low tide.

U. S. Marine Corps Photo from Acme



2 OFF THE COAST OF NORTH AFRICA this U. S. Army Locomotive is carried shoreward by a floating crane. This is one of thousands of specialized locomotives built by The Baldwin Locomotive Works. Each engine has hundreds of feet of Bundy Tubing "life lines," such as oil lines, air lines and other similar parts.

U. S. Signal Corps Photo from OWI . . . Acme

GREATEST battle of the war is the battle of supply—a never-ending race to deliver food, munitions and equipment to faraway fighting fronts.

Even after Victory this battle will go on, as factories pour out new civilian products and rush them to market both at home and abroad.

In this postwar competition, as at present, "life lines" of Bundy Tubing will play an important part.

Today, Bundy Tubing is used for nearly 10,000 different parts in tanks, trucks, jeeps, ships and planes. Tomorrow, it will find hundreds of peacetime applications—in oil, fuel, refrigeration and pressure lines, as well as in structural parts.

There is hardly a field of manufacture in which one or more types and sizes of Bundy Tubing cannot be used to advantage.

Our engineers are ready *now* to help you in the planning and development of new and better products, at lower cost. Write us for any information you may wish. Bundy Tubing Company, Detroit 13, Michigan.

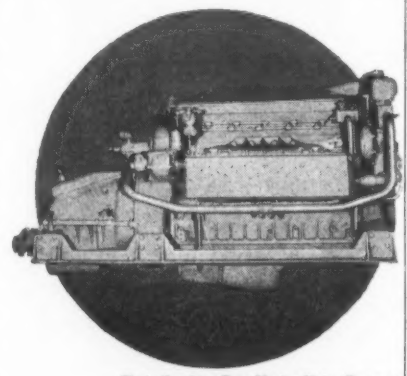


Photo Courtesy Gray Marine Motor Company

THIS SIX CYLINDER GRAY MARINE DIESEL uses Bundy Tubing "life lines" for fuel and oil, inlet and outlet tubes, injector tubes and many other miscellaneous parts.

Buy U. S. War Bonds
Get in Your Scrap

BUNDY TUBING

ENGINEERED TO YOUR EXPECTATIONS

BUNDYWELD double-walled steel tubing, hydrogen-brazed, copper-coated inside and outside. From Capillary sizes up to and including ¼" O. D. This double-walled type is also available in steel, tin-coated on the outside, and in Monel.

BUNDY ELECTRICWELD steel tubing. Single-walled — butt welded — annealed. Available in sizes up to and including 2" O. D. Can be furnished tin-coated outside in smaller sizes.

BUNDY "TRIPLE-PURPOSE" tubing. Double-walled, rolled, from two strips, joints opposite, welded into a solid wall. Available in all Monel; all steel; Monel inside—steel outside; Monel outside—steel inside. Sizes up to and including ½" O. D.

Season's Greetings

We extend our best wishes to the industry in holiday season and express our appreciation for the confidence shown us throughout 1943 from the vast expanse of the Pacific . . . Adak, Alaska, down to Hawaii and Australia . . . across the United States and Canada and over the far reaches of the upper and lower Atlantic . . . from Archangel, England, the Mediterranean, and Africa to the Cape of Good Hope.

And when another year has slipped around, we hope that our services may be measured again by the service we have rendered to mankind, whether in or out of war.

HIGHSIDE CHEMICALS CO.
195 Verona Ave. Newark, N. J.

THAWZONE
The PIONEER FLUID DEHYDRANT

Lawson Decries Tendency To Reduce Sales Organizations

PHILADELPHIA—Development of the type of a retail selling organization that will get for the refrigeration industry at least a big share of the consumer's dollar as it got in pre-war days is the major task facing the industry in the postwar period, stated Charles T. Lawson, sales manager, Kelvinator division, Nash-Kelvinator Corp., in his role as a commentator on the subject "Distribution, Sales and Promotional Methods for a Greater Industry" at the Refrigeration Industry Forum.

Following are some of the points Mr. Lawson made in his commentary:

"Our distribution pattern has two major phases—one covering distribution from manufacturer to distributor to retailer; and a second phase, from retailer to the user or the consuming public. Some of our most serious postwar problems lie in this latter section of our distribution system.

"The refrigeration industry has been built up, in a relatively short time, from nothing to a point where we have obtained an important share of the consumer's spendable dollar. This growth has been accomplished by progressive manufacturing methods, by sound designing to meet consumer needs, and, most important I believe, by hard-hitting, aggressive selling tactics.

"In 1941, out of every $100 the consumer spent, this industry obtained 72 cents. That the automobile industry and the furniture industry obtained somewhat more than 72 cents should be tempered by the realization that automobiles are much higher priced units, and that the furniture industry has a great multiphase of units to sell. The refrigeration industry has had, in the main, for the home only the one product—refrigerators.

"We can of course, as an industry, live and prosper if we continue to obtain 72 cents out of every $100 the consumer expends, and I don't think there is a man in this room who doubts that we can do it. The main job is to see to it that we **don't get less than 72 cents** in the future. To make sure that we don't, we should lay plans to get more.

10 OR 12 MILLION 'DEMAND'?

"Now, offhand, you might say that with the accumulated demand for refrigerators which has piled up during this war period, we have nothing to worry about. But let's look more closely at this accumulated demand for 10 or 12 million household refrigerators that the statisticians talk about. Maybe, if we really begin to examine those figures, we do have something to worry about.

"For some time I have been increasingly concerned with the spreading optimism about this backed up demand for 10 or 12 million household refrigerators. The great danger lies in the misinterpretation of the word demand — there is not a demand for these refrigerators, rather, there is an accumulated need.

"Let me illustrate: Some time ago, the United States Chamber of Commerce made a survey of what American families intend to buy in the first six months after the war. 7.5% of them indicated they would buy a household refrigerator. Now, if we apply this 7.5% to the 35 million American families, we find that about 2½ million families intend to buy a mechanical refrigerator within six months after the war. This amounts to about 10% of the 26 million wired homes. This may be interpreted as the "demand" for refrigerators—but this 2½ million is considerably different from the 12 million figure that goes to make up the so-called accumulated "need."

"Perhaps the first 2½ million refrigerators will be "sold" simply by people walking into the store and asking for them. The only competition for these sales will be within the refrigeration industry.

"But how about the other nine and 3.9% would buy living room furbetween the assumed need for 12 million and the actual demand for 2½ or three million?

"I have no doubt that the market for those nine million refrigerators actually exists. But for that nine million, the refrigeration industry will be in direct competition with the automobile industry, the radio industry, the furniture industry, and with every other industry which manufactures goods to compete for the consumer's durable goods dollar. Remember, the consumer's dollar is going to the industry that goes out to get it.

"It is imperative that we, as an industry, recognize this fact and develop the proper kind of retail selling organization that will translate this "need" for nine million refrigerators into actual sales for the industry.

TREND TO LESS SELLING

"Our industry has always been characterized by its outstanding sales and advertising methods. Our progress in obtaining a large share of the consumer's dollar has been excellent. For example, between 1936—when the industry hit its first two-million year—and 1941, we increased our share of the consumer's dollar 31% in comparison with an increase of only 16% in the automotive industry and 17% in the household-goods industries.

"That was an excellent record—but today there seems to be a growing feeling—particularly among retailers—that we will not have to work as hard for our share of the business in the future as we have in the past. We are in danger of letting this figure of an accumulated demand for 10 or 12 million refrigerators lull us into a sense of false optimism. As a result, retailers are not planning on the same selling organizations they have had in the past.

"Let me quote a few examples from a recent survey that seem to show the trend this thinking is taking:

"Here is a department store—before the war it has 12 salesmen. It now, understandingly, **has only** two. But the appliance manager of this store believes he will need only six salesmen in the postwar period.

"Here is a merchandising utility—before the war they had 30 salesmen. After the war they are planning on having only 20.

"Here is a large appliance specialty shop—before the war it had 18 salesmen. Its owner plans on having only six salesmen after the war. Not all dealers interviewed said they would have less men — but a sufficiently large number were represented by these examples to show a definite attitude toward smaller sales organizations.

OTHERS WILL FIGHT FOR IT

"Those who think in this manner are due for a rude awakening—an awakening which will come when they realize that unless they rebuild their sales organization to the same high standard of the past — unless they build a sales organization that is better than that of dealers in home furnishings, radio, and automobiles—a large chunk of their former share of the consumer's dollar will go some place else.

"I believe that retailers will, in the postwar period as they have in the past, expect the manufacturer to take the lead. They will need and want his advice and guidance. And if our industry is to get the share of the consumer's dollar we want, the manufacturers must be ready to help them—we must be set to help our retailers take advantage of the first easy selling period to rebuild and organize their sales organizations.

"Faced with the fact that salesmen will have to be paid more, we must recognize that not only must their skill and training be up to the standard set by our industry in the postwar period — but they must be better trained, better equipped, and better supervised to give the retailer the return on his investment that he must have in order to pay higher salaries.

"This proper and adequate training of retail salesmen is one of the most important jobs our industry must do as we go into the postwar selling period. Having recognized that there is a difference between the need for 10 or 12 million refrigerators and the actual demand for 2½ or three million, we should be prepared to do something about it.

"And one of the first things to do, is to recognize the necessity of organizing and training capable salesmen to go after that other nine million. We, as an industry must build the right kind of a postwar sales and merchandising organization, which in turn will go after refrigeration's share of postwar consumer dollars."

Jones 'Dissents' From Criticism That Distribution Is Costly, Uncontrolled

PHILADELPHIA — Vigorous dissent to the "opinions formed by a whispering campaign that distribution methods of mechanical refrigeration are (1) too expensive and (2) too unresponsive and lacking in control," were sounded by W. Paul Jones, vice president, Philco Corp., a commentator to the subject "Distribution, Sales and Promotional Methods for a Greater Industry," at the Refrigeration Industry Forum.

"The first charge," declared Mr. Jones, "says in effect that the product costs the consumer far too much money as a result of wastes in the system.

"The second charge is that independent distribution is too subservient economically to the manufacturing sources to reflect adequately customer demands and market needs.

COST OF ANY SYSTEM IS PURELY RELATIVE

"Against the No. 1 charge—that the system is too expensive—I submit that the expense of operating any distribution system is purely relative to the actual distribution accomplished, and that under the present system and included within its costs we have reached and opened the world's most remote, inaccessible, and most expensive to serve markets.

"The present system provides financing for carrying the slow pay dealer, who is just as important and necessary as his counterpart, the independent corner grocery store, proved to be in food distribution. The marginal volume dealer, who alone can serve the many relatively inaccessible areas, is allowed existence only under the present system.

"It is needful in any system that someone carry, without too great markup, the burden of field inventory costs. Today, those costs are allocated fairly between mass markets and lean ones.

"Great factor in cost reduction is volume of production—which results only from increased volume of sales, and which in turn can come only from a broad advertising, merchandising, and educational approach. Our present system has made and kept a place for those three essentials.

"I submit that no system of distribution can be such in fact or in deed unless it serves not the mass market alone—nor neglect to serve the thin one. Further, that our present system brings the customer the ultimate benefits of lower cost, by application of individually operated smaller business acumen, which in turn, brings lower overhead.

"Against the Charge No. 2 that the system is too unresponsive and lacking in control, I submit that selfishness as expressed and personified in individual business ownership, is selfishness virtually controlled by the ultimate consumer. Through no other system can the likes and dislikes of both Judy O'Grady and the Colonel's Lady reach the boss so quickly.

"Admittedly both distributors and dealers show great concern with profit-making, with stock turnover, with exploitation of their individual brand. But given a worthy brand, their overall market development efforts are likely to be quite as effective as the better integrated chain or branch institutions.

"Those efforts will stem naturally from responsiveness to sales pressure by the dominating organization —in most cases the manufacturer.

"The concern for stock turnover, far from being a shortcoming, aids in the greatest sense in protecting the industry from over-production.

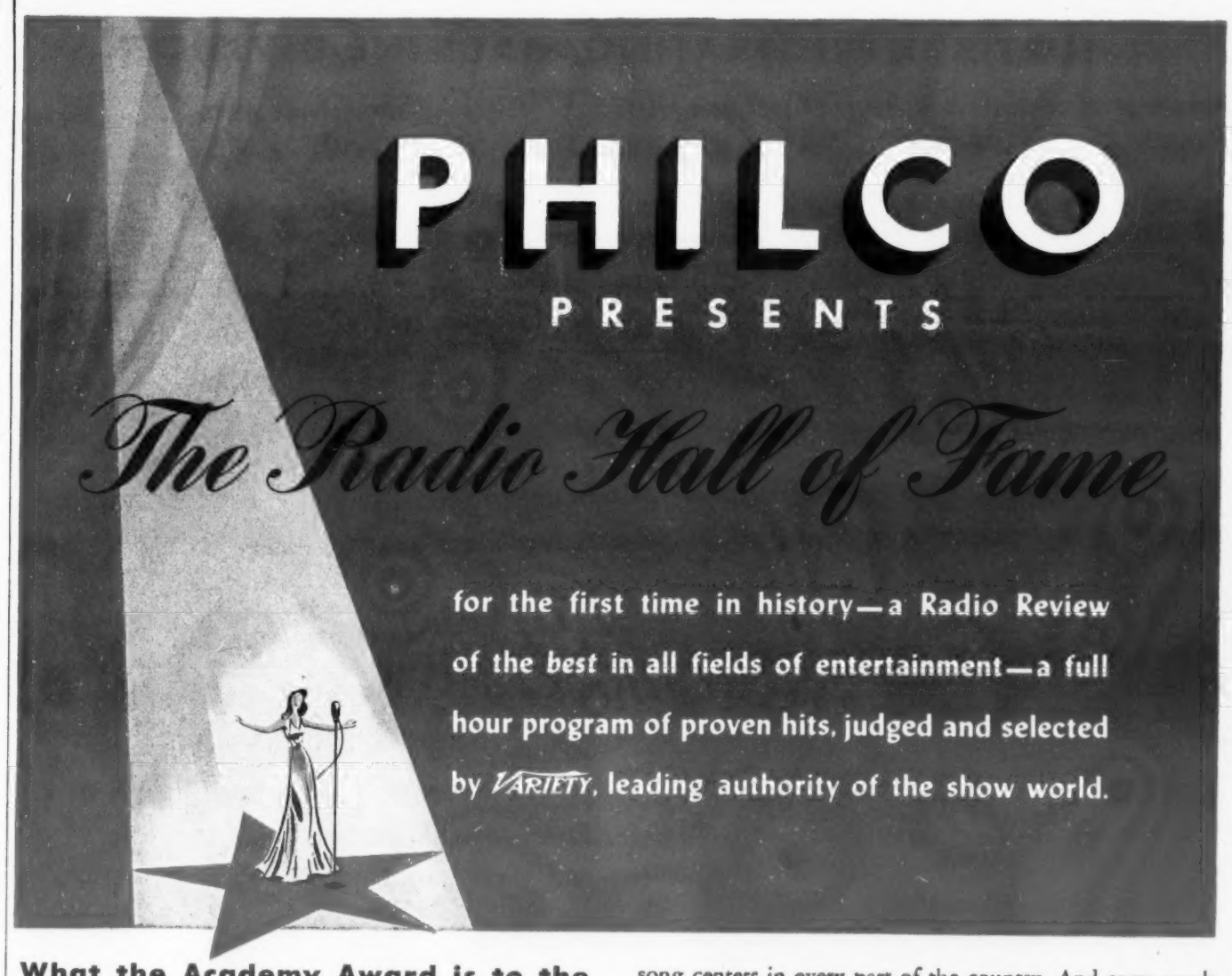
"The independent mind, though selfish in viewpoint, is far superior to the hired-man mind. The hired man needs must take in whatever we may ship. We are thus deprived of counter-pressure at a most crucial time for the prevention of unbalanced inventory and its resultant waste.

DEALER REACTION IMPORTANT

"Anyone who has seen the system operate at close range knows the lethal traveling speed of bad news—resulting from poor product judgment. Therefore, dealer reaction to the product accurately and swiftly reflects consumer thinking.

"Economic subservience in the present system is in truth a myth. Comparably — or in contrast — any variance of the system in the direction of straight line control must tend to increase economic interdependence of the various units.

"In conclusion I say that whatever substance of truth there may be in the charge of lack of control can, and should be, accepted with equanimity by the industry, because the very essence of private enterprise is in itself a lack of control also.


PHILCO
PRESENTS
The Radio Hall of Fame
for the first time in history—a Radio Review of the best in all fields of entertainment—a full hour program of proven hits, judged and selected by VARIETY, leading authority of the show world.

What the Academy Award is to the movies...what the Rose Bowl is to football...what the Reader's Digest is to the magazines...

THE RADIO HALL OF FAME will be to the world of entertainment.

On Sunday December 5, 1943, from New York and Hollywood, a sensational new program came to the air. All-star entertainment, famous names and outstanding artists . . . but more than that, a brand new *service* for the radio listeners of America!

How often have you wished that some competent judge would pick out the best performances, the top hits, the shows you shouldn't miss and present them to you all in one single program?

Nothing like it has ever been done before; yet it meets the expressed or unexpressed wish of millions throughout America. And now it's here, for the first time in the world of entertainment . . . presented to you on the air by Philco . . . the Radio Hall of Fame!

Every week, Variety Magazine, the leading authority and most influential publication in the show world, will comb the theatres, concerts, studios, night clubs and popular song centers in every part of the country. And every week Variety's board of editors will judge and select *the best*—the top hits—the performances that make headline news, nationally and locally—for the Radio Hall of Fame.

Thus, by its very nature, this radio show of shows produces the greatest program of all-star entertainment ever conceived. Because every act is *a hit*, tried and proven.

In launching the Radio Hall of Fame now, Philco looks to the greater Philco of tomorrow—now building through war research and production. When peace returns, the products that Philco will provide in radio, phonographs, television, refrigeration and air conditioning, will bring to Philco dealers the greatest opportunities ever offered in the appliance trades.

Tune in Every Sunday

BLUE NETWORK
Coast to Coast
6 to 7 P.M. . . . Eastern War Time
5 to 6 P.M. . . . Central War Time
4 to 5 P.M. . . . Mountain War Time
3 to 4 P.M. . . . Pacific War Time

Future Demands For Refrigeration And Air Conditioning Products

H. L. Andrews Offers Data on Market Factors For Various Types of Refrigeration Equipment

PHILADELPHIA — An "awakened interest in food quality and nutritive value" means even vaster markets for the industry since refrigeration is one of the best means of obtaining higher quality of practically all foods, the Refrigeration Industry Forum was told in the paper "Future Demands for Refrigeration and Air Conditioning" prepared by H. L. Andrews, vice president, General Electric Co.

Since Mr. Andrews was confined to his home by illness his paper was presented by A. M. Sweeney, manager of the refrigerator department of the General Electric Co.

Frosted food competitions will stimulate the canner; the canner will stimulate the dehydrator, and both in turn will stimulate the fresh food industry, Mr. Andrews' paper pointed out. They will all use more refrigeration.

How fast this vast market for all types of commercial refrigeration and air conditioning will result in actual factory orders will depend largely on the kind of job done by the engineers, the factory men, and the sales groups in the refrigeration industry.

Among the principal points made by Mr. Andrews were the following:

More goods, better goods, for more and more people at constantly lower and lower prices has been more than a slogan in the mechanical household refrigeration industry. The industry has actually applied this formula year after year in the past. It can and should continue to apply it, in the postwar period.

Prewar results of this policy are evident in the sales of over 3½ million units in the last full year of production with an estimated total of 20,000,000 mechanical refrigerators in use today, and a saturation closely approaching 65% of the wired and gas-served homes in America.

The United States Chamber of Commerce Survey shows that 1,715,000 families now intend to buy refrigerators within six months after the end of the war. Whether or not this figure accurately represents the number of actual sales is of lesser importance than the fact that the refrigerator heads the list of eight leading household appliances.

In this survey the refrigerator outrated radios and irons whose annual unit sales in the pre-war days far exceeded the refrigerator unit sales.

The annual volume of 3½ million sales realized in 1941 can be sustained and even exceeded for a number of years if economic conditions are at all what we expect.

Of immediate interest is the question of what the saturation may be.

A dozen years ago "optimists" were saying that household refrigerator saturation might ultimately reach 50%. Skepticism with respect to the saturation limit may be partially attributed to supposedly authoritative mathematical studies which had predicted this low level of saturation.

90 TO 95% SATURATION

We now believe that ultimate ownership may reach as high as 90 to 95% of wired and gas-served homes. We base this belief on the following facts:

1. The rapid increase in ownership by the low income group, with ownership in the upper-middle and high income groups already above 90%.

2. The strong demand expressed for mechanical refrigerators by almost all non-owners. (It has been rumored that an average of 1,000 letters per day were being received in Washington during the past summer months from people asking how they could obtain a refrigerator under present conditions.)

3. The high ownership already achieved in all the low income Southern states. (We have seen pictures of household refrigerators installed in Southern homes where it appeared that the value of the refrigerators exceeded the value of the houses. And the owners had actually made full payment on the refrigerators.)

New home construction in the postwar decade has been estimated at seven to eight million units. Since the number of new homes built will be about equal to the net increase in families we can look for at least a 65% saturation or 450,000 units a year. The exact quantity will be determined by the kind of selling job we do.

It should be possible to start every new home owner with a new refrigerator. If we do a good selling job and reach a saturation of 90% in these new homes the annual sales can be as high as 600,000 units.

Another source of new household refrigerator potential sales is rural electrification. There are 7½ million farm dwellings in the United States of which only three million are already wired. With the Public Utilities and R.E.A. continuing the fine work which was well under way before the war, it is reasonable to expect that these farm dwellings may be reached with electric lines at the rate of half a million per year very shortly after the war.

325,000 PER YEAR ON FARMS

Aggressive sales promotion should result in average saturation on the farm. This would suggest a possible annual new farm market of 325,000 units per year for at least four or five years; and the farmers should have the money to pay for these refrigerators.

A further source of future sales will come from nearly three million families still living in old urban and suburban homes not yet wired or served with gas.

The rate at which these homes will be "brought into the fold" is admittedly a question, but it is reasonable to assume that this market will account for an additional 100,000 to 200,000 units annually.

Of course, the real large sales opportunity of the future is in the replacement barket.

Various estimates have been made of the ultimate life of the average refrigerator. Ten years ago some "experts" guessed a life of seven or eight years. Perhaps this was a fair figure for some of the early production. Later the life was estimated as 10 years.

More recently the figure was advanced to 15 years on models made within the last five or six years. As a matter of fact on our own product we have mortality figures indicating an average life much longer than 15 years.

Of the 20 million mechanical refrigerators now in use an estimated one million are over 12 years old and another million are probably over 10 years old.

Those of you who are associated with the product service end of the business at the present time, however, know that thousands of units which would have been replaced in normal times are being repaired and kept in service now at considerable extra expense.

2 MILLION UNIT BACKLOG

It has been estimated that at least two million units will be immediately eligible for the scrap pile as soon as new refrigerators are available.

This is the so-called "back-log" or deferred demand we hear so much about. This "back-log" is superimposed on a normal replacement demand which we believe will be at the rate of over 800,000 units per year immediately after the war.

This replacement market can be expected to grow as we reach the ultimate life of the units sold in the more recent years, when the annual sales were from two to three and a half million units per year.

Last but not least, is the export market, averaging somewhat less than 8% of United States production before the war. We believe this part of the business may reach as high as 15% of United States production in the postwar period.

It is not unreasonable to assume that those nations with whom we have favorable trade relations may call upon United States manufacturers for as many as 500,000 units per year until they are able to establish their own production facilities.

It may be entirely possible that many foreign outlets may be developed for rebuilt United States refrigerators, but it might be in order to make the comment that any attempt to unload units of questionable quality on this market will have very bad results which might very seriously affect an otherwise greatly widening opportunity for the future. Only the most dependable product should be offered these foreign countries if we are to enjoy the business for any length of time.

We believe that for some years after the war an annual total sales of from three to four million units is entirely within reason and that the ultimate annual sale for the long pull will be in the neighborhood of from two to three million units.

These estimates, totaling roughly two and a half to three million units annually, are for the long pull, when industry (we hope) settles down to normal. But first we have to "fill the pipes." In the year V+2 (as we name the year of full production two years after the war) and for several years thereafter. we will be filling the back-log of two million units. During this period sales should run between three and four million units annually.

But this, in our opinion, is only the beginning. A tremendous additional market for household refrigeration was well above the horizon in the immediate prewar period.

BOOST IN 2-TEMPERATURE JOBS

I refer to the two-temperature refrigerator combining the storage space for quick frozen foods, and the regular storage space for other perishable foods, as well as the chest type of cabinet for the freezing and storage of frosted or quick frozen foods.

Millions of homes are now equipped with satisfactory standard refrigerators. These will be supplemented in tremendous numbers with the chest type of frozen food cabinets. The acceleration of acceptance of these models in the immediate postwar period will, in my opinion, depend greatly upon the successful performance of the early production of these chest type units.

If manufacturers insist on the maintenance of high quality design, engineering and manufacture, then there is no reason why millions of these units should not find their way into millions of homes in this country.

On the other hand, this fine industry opportunity can be retarded and perhaps wrecked by the introduction of these units built to a price with no regard for their efficiency and reliability.

Surveys we have made among various panels of prospects indicate a potential market of several hundred thousands of these models in the immediate postwar period, regardless of a trend away from Victory garden activities or other war-time habits of the home storage of frosted food.

As old refrigerators reach the end of their useful life, they will be replaced by two-temperature models. These two-temperature models will undoubtedly accelerate the rate of obsolescence of the refrigerators now in use.

Here again the rate of acceptance will, in our opinion, depend upon the success or failure of the early production. If these two-temperature models are well designed and actually do the job of maintaining balanced temperatures in both compartments, the early purchasers will be

(Concluded on Page 11, Column 1)

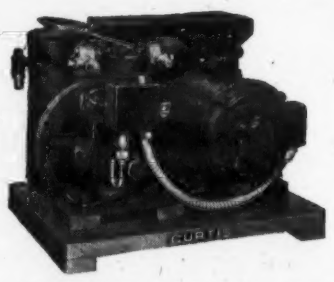
CURTIS REFRIGERATING MACHINE DIVISION

of Curtis Manufacturing Company

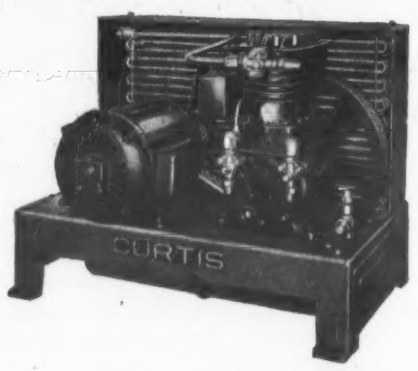
1912 KIENLEN AVENUE, ST. LOUIS, MO., U. S. A.

ESTABLISHED 1854

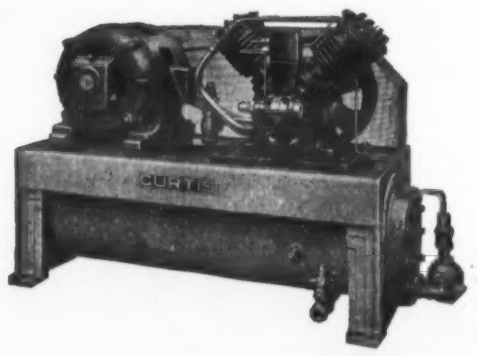
CURTIS REFRIGERATION AIR CONDITIONING AND COMMERCIAL



¼ to ½ H. P. Self-Contained Condensing Units



¾ to 2 H. P. Air-Cooled Remote Type Condensing Units



3 to 15 H. P. Cleanable Shell and Tube Condensing Units

Curtis Refrigeration Units conform to the War Production Board's program for conserving materials.

A complete range of Units, from 1/4 through 15 horsepower, is available.

A major part of Curtis production is now either following the Armed Forces of the United States at home and abroad, on land and sea, or going into our war industries for a wide variety of essential applications.

We are proud that Curtis is thus serving America's War Effort today, just as it has for many years served peace-time industries.

All Curtis equipment is designed and built to deliver dependable, trouble-free, economical operation — performance which is made possible as a result of 88 years of successful manufacturing experience, advanced engineering, precision methods, and the use of the finest materials available.

Chief Engineer

Refrigeration and air conditioning equipment manufacturer with over 25 years' experience in the industry requires the services of a chief engineer. This man must have had experience in design engineering of air handling and heat transfer equipment. Experience in compressor design not necessary. This is a real opportunity for a man desiring a permanent position with an old established manufacturer who is now expanding operations for postwar production. Good living conditions in a city of 75,000 population. Write giving qualifications, age, and nationality. All replies will be held strictly confidential.

Box 1492, Air Conditioning & Refrigeration News

Low Temperature and Replacement Markets Big Commercial Field Factors

(Continued from Page 10, Column 5)

enthusiastic and the volume may easily reach a million units a year in the early future. Of course these sales would be largely replacements and they should not be added as a new market.

COMMERCIAL REFRIGERATION

The commercial refrigeration phase of this industry is no longer a "baby" industry. It has weathered the trials and tribulations of the early development stage; it has passed through the pioneering stage; and is now approaching the upper or "acceptance" portion of the growth curve.

Commercial refrigeration in the restricted meaning of refrigeration for the meat market, grocery store, cafeteria, restaurant, tavern, and all the other applications for food sales and food services, has been the "bread-and-butter" of the industry. There is no reason to believe that this portion of the industry will not surge ahead.

A very high percentage of new home construction in the postwar period will be in suburban areas. New or enlarged shopping centers and service facilities will accompany this home building. New meat markets, new grocery stores, super markets, drug stores, restaurants, schools with cafeterias, hospitals, and public buildings will be required to serve these new areas. All of these establishments will require commercial refrigeration.

The retail sale of frosted foods will assume new proportions in the postwar period. Meat packers point out that the availability of beef, veal, pork, runs in cycles; at one time there is a predominance of beef, at another time pork, and so on. It has been necessary for the packer to build up a demand for the type meat in abundance at that particular time. Unfortunately, the demand which has been created for a given kind frequently lags the available supply and the result is an excess which must be disposed of at lowered prices.

More extensive use of frosted meats would permit an equalization of the supply and demand. Through centralized preparation of meats and through proper utilization of the waste products, the cost of the refrigeration required to freeze the meats would be paid for in great part, if not in full. Savings resulting through the elimination of losses may be passed on to the ultimate consumer.

With widespread use of frosted food cabinets in the home, frosted meat usage will be given a new impetus. With it will come new demands for refrigeration equipment at every point from the packer to the consumer.

The growth of the super market brought out several kinds of merchandising cases in which the customer viewed the products for sale and made his own selection. I refer to such items as island type dairy cases, refrigerated vegetable stands, and other products of a similar nature. The proper display of chocolates has always been something of a problem. The candy field will welcome an attractive display case which would provide both proper display and correct temperature and humidity for chocolates.

Cabinets having sufficient refrigeration capacity to freeze foods as well as hold them at the proper storage temperature, will be in increased demand. Many of the thousands of Victory gardeners, gardening for their first time, have been surprised at the amount of produce they could obtain from a comparatively small space.

After the war it is very probable that an appreciable number of these amateur gardeners will continue to grow their vegetable requirements. With wider use of frosted foods, it is only natural for them to turn to the home freezer as the simplest method for the preservation of their garden output. And they will augment the output of their gardens with produce purchased at local farmer's markets or similar places.

The farm market is another source for new commercial type of refrigerating equipment demands. There are slightly over 6,000,000 farms in the United States (7,000,000 farm dwellings). Of that number approximately 2,550,000 farms are connected to power lines (3,000,000 farm dwellings). It is reasonable to assume that from 200,000 to 300,000 farms will be added to power lines each year. This augments an already existing market with a low saturation.

The locker plant can economically justify its existence and large numbers of these plants will be built in the postwar period. I do not believe its functions will be greatly altered, for those using the facilities of the locker storage plant will find a frozen food cabinet in their home a desirable adjunct to their cold storage locker.

Yes, the number of locker plants will grow larger and in saying that the growth will be at the rate of a 25 to 30% increase each year in the number of installed plants in the postwar period, I think I am conservative.

The drinking water cooler is an accepted item in the office and factory. Management recognizes that an adequate supply of accessible drinking water not only reduces lost time but is a step towards better employe relations. With the great increase in the number of manufacturing plants in operation in 1941, water cooler sales that year were almost double the 1940 sales and the latter year was a good one. With factories and offices operating at a high level, water cooler sales will be good.

REPLACEMENT MARKET

As we stated earlier, commercial and industrial refrigeration is not a new industry; it has reached the point where replacements represent an appreciable percentage of the total market.

The minimum replacement requirements to keep this equipment operating are estimated at something over $64,000,000 annually. The present indication is that authorization of equipment for replacement will not exceed $14,000,000 in 1943 or a deficit of 50 million dollars.

There is some indication that increased authorization will be made in 1944 but it is not probable that it will be in sufficient amount to satisfy the normal replacement requirements. This represents a replacement market for high and low sides which may easily represent 50 to 100 millions of dollars per year above the normal level for several years after the war.

AIR CONDITIONING

Future demands for air conditioning can best be estimated by analyzing the past growth, the factors that will create increased future growth and the potentialities in its three markets—residential, commercial, and industrial.

Residential Air Conditioning.—Just prior to the War, which brought subsequent restrictions on the sale of air conditioning equipment for human comfort, rapid strides were being made in the nation's residential market, as evidenced by the data extracted from Edison Electric Institute statistics.

These figures show a slow growth of residential air conditioning up to 1940, as indicated by a total of only 11,202 installations up to that time, and then a sudden expansion in demand in 1940, in which year alone residential air conditioning installations equalled almost half of the total number made in all prior years.

The considerable increase in demand for residential air conditioning in 1940 and 1941 indicates a very promising future growth in that field.

There are several factors that will create increased future growth of residential air conditioning. One, of course, will be a strong promotional campaign on our part to stimulate the desire for the comfort that air conditioning can provide in the home. The second and probably the biggest fact, will be considerably lower cost of equipment, especially central plants.

A recent study of the cost of air conditioning in the home revealed that a good automatic heating system averages about 8% of the total house value. However, when complete summer cooling equipment is added, which, incidentally, is required to have only about one-third to one-half the B.t.u. capacity of the heating system, the combined heating and cooling cost rises to approximately 20% of the house value.

That cost must be greatly reduced or the residential air conditioning market will remain a room cooler market in which air conditioning will be bought for just one or two rooms per house.

What will solve this problem of low cost home heating and cooling equipment? Probably it is the standardization of application and the development of equipment specifically for this market. In some locations the "heat pump" or reversed refrigeration machine may offer interesting possibilities.

The immediate postwar residential air conditioning market will still be largely a room cooler market, and the dollar volume will probably be the same order of magnitude as that in 1941. However, with a downward trend of prices and improvement in quality, room coolers should show a very large increase in sales in subsequent years.

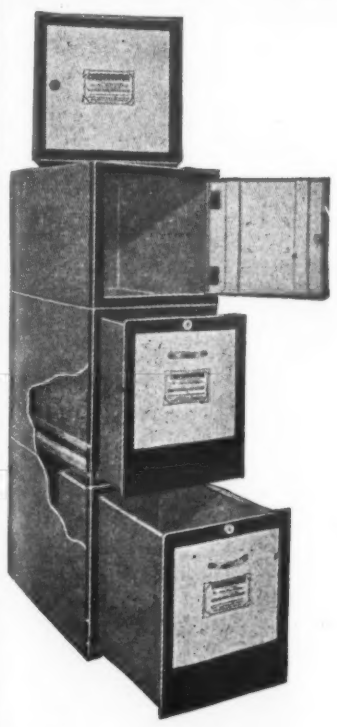
It has been pointed out that a tremendous increase in housing construction is expected after the war

(Concluded on Page 13, Column 1)

Designed For Efficiency Built For Endurance

That's the story of Masterbuilt Lockers in a nutshell. In locker plants everywhere MASTER is giving complete satisfaction because MASTER delivers the best in quality, as well as a locker that meets their every requirement.

MASTER FOOD CONSERVATOR



Sturdily constructed . . . enamel finish . . . utmost in sanitation . . . protection against dehydration, odors, etc. . . . interiors removable from bank for cleaning or whole locker removed from bank for cleaning . . . no air wipe and many other features.

Order Today

Write, phone or wire your order. Equip for the future as well as the present. Install MASTER, the first cost—last cost locker.

Endorsed by and sold through distributors of refrigeration and insulation.

Master Manufacturing Corp.
121 Main St. Sioux City 4, Iowa

Member of Frozen Food Locker Manufacturers and Suppliers Ass'n. organized for your protection.

Over 400,000 Master Food Conservators in Use

To G-E Distributors and Contractors

Here is another ad in the G-E series describing war applications of air conditioning and industrial refrigeration. Appearing in industrial publications, it is designed to help you in your important work by reaching many of your prospects in key industries.

One died from SHELL SHOCK!

THESE two armor piercing shells *looked* perfect . . . until they were shock tested in three successive water baths . . . cold . . . boiling . . . cold. One *was* perfect. The other cracked . . . was rejected as unfit to fight.

Heating and cooling these baths is just one of countless ways in which General Electric heating, refrigeration and air conditioning are serving war industries.

In recent months, industrial refrigeration and air conditioning have made great strides. Equipment is more compact, more flexible. Temperature and humidity are controlled more exactly. Result: more and better fighting equipment...in shorter time.

After the war, improved process refrigeration should help to make many peace-time products better . . . at lower cost. And vastly improved air conditioning will provide greater comfort in more and more hotels, offices, stores, theatres, homes . . . even in cars, boats and planes.

The wide experience that General Electric engineers are gaining in war work today is your assurance that they will be ready with finer and more efficient refrigeration and air conditioning equipment for the needs of post-war Americ...

☆ BUY WAR BONDS ☆

Air Conditioning and Commercial Refrigeration Divisions, Section 4313, General Electric Co., Bloomfield, N. J.

Industrial Refrigeration by

GENERAL ELECTRIC

Hear the General Electric Radio Programs: The "G-E ALL-GIRL ORCHESTRA," Sundays, 10 p. m., EWT, NBC..."THE WORLD TODAY" News, Every Weekday 6:45 p. m. EWT, CBS

Air Conditioning & REFRIGERATION NEWS

Trade Mark registered U. S. Patent Office;
Established 1926 and registered as
Electric Refrigeration News

F. M. COCKRELL, *Founder*

Published Every Monday by
BUSINESS NEWS PUBLISHING CO.
5229 Cass Ave., Detroit, Mich.
Telephone Columbia 4242

Subscription Rates
U. S. and Possessions, Canada, and all countries in the Pan-American Postal Union: $4.00 per year; 2 years for $7.00. All other foreign countries: $6.00 per year. Single copy price, 20 cents. Ten or more copies, 15 cents each; 50 or more copies, 10 cents each. Send remittance with order.

GEORGE F. TAUBENECK,
Editor and Publisher

PHIL B. REDEKER, *Managing Editor*
Editorial Assistants: ROSS H. POTTER, C. DALE MERICLE, ELISE WHITE, AND HELEN DAVIS

JAMES B. SMITH, *Advertising Mgr.*
ELIZABETH SMITH, *Assistant Bus. Mgr.*
MARGARET MARR, *Assistant Adv. Mgr.*
HELEN C. HENDERSON, *Credit Manager*
RUTH RICHARDSON, *Subscription Mgr.*

On leave of absence to serve our country
U. S. Army: JACK SWEET, GEORGE L. COLLINS, GEORGE M. HANNING AND HUGH T. MAHAR
U. S. Navy: ROBERT P. NIXON, ED HENDERSON, JOHN R. ADAMS
U. S. Marine Corps: PAUL R. PARK
U. S. Army Air Forces: JIM MCCALLUM AND GEORGE WATKINS

Member, Audit Bureau of Circulations
Member, Associated Business Papers

VOLUME 40, No. 16, SERIAL No. 770
DECEMBER 20, 1943
Copyright, 1943, Business News Publishing Co.

Too Little, Too Late—Again

ONCE again government agencies have missed the boat on refrigeration. And this time they're in a helluva jam.

The agencies involved are the OPA, the War Food Administration, and the Office of Defense Administration. Each is blaming the others for the predicament. And all are throwing brickbats at the WPB and the Army.

Here's the situation: The War Food Administration and the military authorities have piled up immense stocks of foodstuffs, which they say they have to keep against a rainy day. The perishables among these foodstuffs have loaded the nation's refrigerated warehouse space up to the seams.

SLAUGHTERING BREAKS RECORDS AND JAMS FREEZER SPACE

And now comes a record-breaking movement of livestock to market. Much more is being slaughtered than is being consumed. And we have neither the freezer space nor the storage space to accommodate it.

One solution is to release some of the tremendous hoard of butter and other perishables now in storage to the public. However, the Army is said to be opposed to this solution because of the fear it might make the public believe the war is almost over.

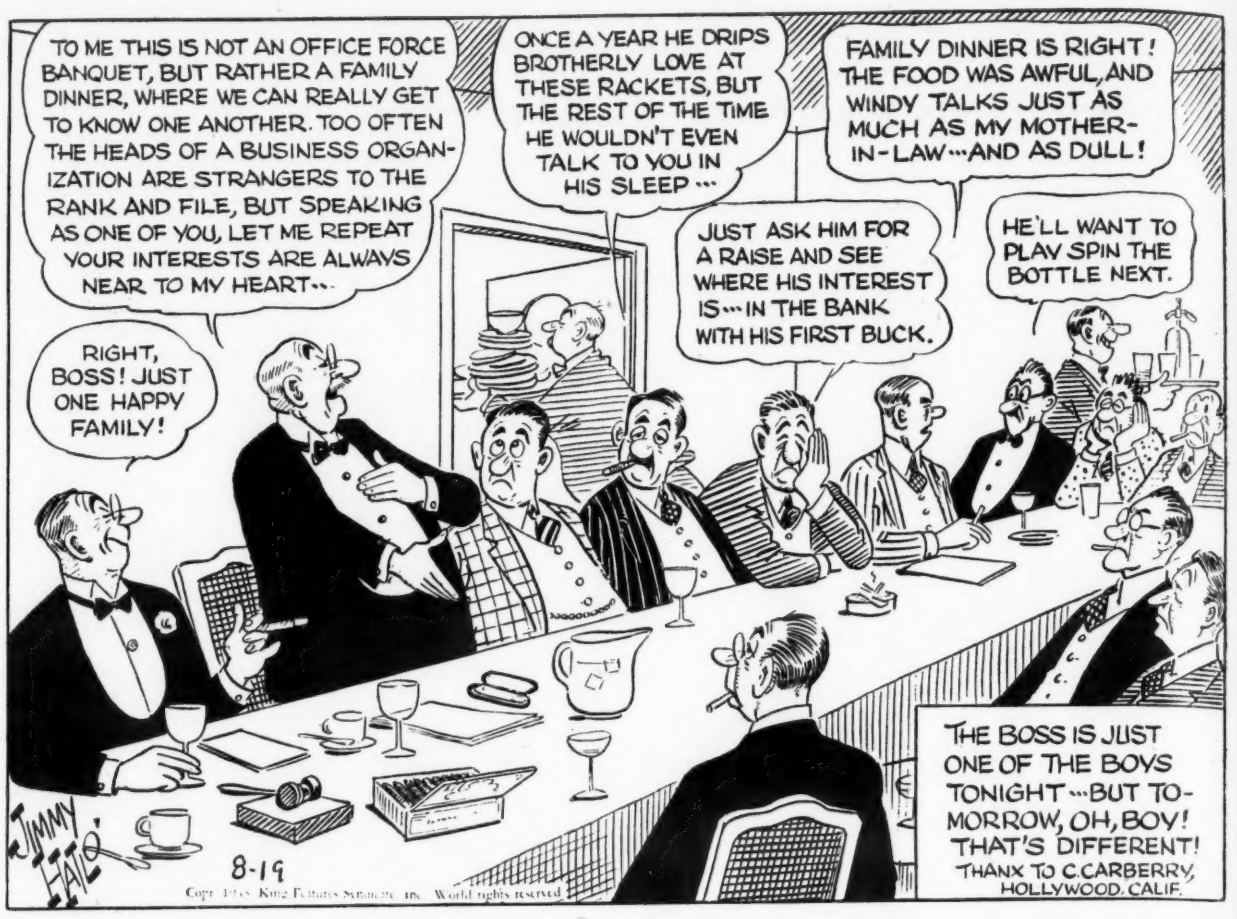
The War Food Administration is desperately anxious to keep everything they have now, and freeze all this new stuff, so as to be prepared for the meat shortage they expect next summer (because of various OPA machinations, farmers aren't going to carry such big herds of livestock next year).

All this problem was foreseen last spring, and the matter was broached to Chester Davis, then head of the War Food Administration. (See open letter to Mr. Davis published in the June 21 issue of AIR CONDITIONING & REFRIGERATION NEWS, and his reply in the July 25 issue). Mr. Davis was all set to fight for the expansion of the nation's refrigerated storage capacity—and then he was let out because he did not believe in the subsidy program.

So here we are again, boys. A lot of precious food will probably go to waste.

They'll Do It Every Time

By Jimmy Hatlo


TO ME THIS IS NOT AN OFFICE FORCE BANQUET, BUT RATHER A FAMILY DINNER, WHERE WE CAN REALLY GET TO KNOW ONE ANOTHER. TOO OFTEN THE HEADS OF A BUSINESS ORGANIZATION ARE STRANGERS TO THE RANK AND FILE, BUT SPEAKING AS ONE OF YOU, LET ME REPEAT YOUR INTERESTS ARE ALWAYS NEAR TO MY HEART···
ONCE A YEAR HE DRIPS BROTHERLY LOVE AT THESE RACKETS, BUT THE REST OF THE TIME HE WOULDN'T EVEN TALK TO YOU IN HIS SLEEP ···
FAMILY DINNER IS RIGHT! THE FOOD WAS AWFUL, AND WINDY TALKS JUST AS MUCH AS MY MOTHER-IN-LAW···AND AS DULL!
RIGHT, BOSS! JUST ONE HAPPY FAMILY!
JUST ASK HIM FOR A RAISE AND SEE WHERE HIS INTEREST IS···IN THE BANK WITH HIS FIRST BUCK.
HE'LL WANT TO PLAY SPIN THE BOTTLE NEXT.
THE BOSS IS JUST ONE OF THE BOYS TONIGHT···BUT TOMORROW, OH, BOY! THAT'S DIFFERENT!
THANX TO C.CARBERRY, HOLLYWOOD, CALIF.
JIMMY HATLO
8-19
Copr. 1943 King Features Syndicate, Inc. World rights reserved.

LETTERS

AN OPPORTUNE TIME TO CHANGE GUARANTEES?

Marietta Radio Supply Co.
221 Second St.
Marietta, Ohio

Editor:

We have a suggestion to make to all manufacturers of household electric refrigerators.

When electric refrigerators were first sold they had a one year guarantee on them and then a few years later they increased this guarantee to three years on the unit and they maintained the one year guarantee on the cabinet and then a few years later they increased the guarantee on the unit again to five years and this is being maintained at this time.

It will soon be two years since any new refrigerators have been made and we think that this would be the opportune time for all manufacturers to get together and establish a uniform guarantee of one year on all household refrigerators, cabinets, and units alike.

Just stop and look at the automobile manufacturer and dealer who sells units from $800 to $2,000 and the customers only get a 90 day guarantee on a $2,000 automobile. Why should we have to sell an electric refrigerator for $125 up to $250 and be compelled to service it for five years?

This service costs the manufacturer, the distributor, and the dealer a lot of money each year and we do not see why all the refrigerator manufacturers could not get together and establish a one year guarantee on all makes before they start manufacturing refrigerators again in the not too distant future.

We would like to have dealers and distributors suggestions on this matter before it is too late, as we feel that there is no better time to correct this matter than right now.

H. W. GLUFF

IRVING SUSSMAN REPORTS

Ricker Junior College
Houlton, Me.

Editor:

I am grateful for your letter.

I now head the departments of physics and mathematics at Ricker Junior College in Maine. I shall probably not return to the refrigeration industry again. In fact, I have already made arrangements with Harvard to begin work this summer leading to a Doctorate in Mathematical Physics, for the purpose of furthering my teaching career. I still retain some interest in my old firm, but that will be gone when a purchaser arrives.

Perhaps it will be of a little interest to you to know that I hold the industry quite directly my creditor in the matter of my having gone into teaching. It was the study and small researches I made into the mysteries of dispering heat and humidity which rekindled in me an old enthusiasm for mathematics and physics, an enthusiam which perforce, this time, went unchecked.

In other ways, too, I feel indebted to the refrigeration industry. By a coincidence, it was only the night before receiving your letter that I was chuckling over the English Bulldog on the beach at Tel-Aviv in your book, "England and Palestine." If ever you discover at some future date that I have become an instructor in mathematics at the University in Palestine, you may hold yourself accountable for having given me a first nudge in that direction by your wonderful exposition and description of Palestine in that book. It is a very valued part of my library.

It is a source of regret to me that I have been unable to say goodbye to all the friends I made in the industry. There are so many of them! Some day, when the insanity of a mad world will again allow a Refrigeration Show, I shall pay you all a visit at the one place and time. Please save me a ticket!

IRVING R. SUSSMAN

NEWS IS 'WONDERFUL SOURCE OF INFORMATION'

Twin-State Refrigeration Service Co.
919 Eastern Parkway, Brooklyn, N. Y.

Editor:

As I am most anxious not to have my subscription lapse I would like to hear from you immediately whether or not you received the check. The NEWS has been a wonderful source of information and aid, in wandering through the maze of priorities and regulations pertaining to the industry.

We all hope you will continue to keep up your good work in giving refrigeration companies the news and information it needs.

H. GERARD

REPAIRMAN IN ARMY SEES SKILL WASTED

Fort Bliss, Texas

Editor:

I received two copies of your paper earlier this week and it was a treat to read the NEWS again.

I read with interest the notice on deferment of service engineers. As I glanced through the paper I read quite a number of items dealing with the seriousness of the service problem. I read where the government promises aid in teaching new men to take the place of those drafted. Ye Gods! Don't they know this peculiar craft can't be mastered in a few short months or even years?

It takes at least two years to be able to do elementary service work, and a good five years before one can become an A-1 commercial man. The war will be over before these trainees will be able to do any good at all. In the meantime the picture grows darker and darker. When the hot months of next summer roll around and the patched-up jobs go down by the thousands the situation will be nothing worse than a calamity.

Some of the industry's best men are hauling cement or digging ditches in the Army when they could be doing their country a good deed by staying on the job and keeping food spoilage down. As an example, I have been eight years at the trade, have supervised men and know shop work as well as field work.

I believe it is time for a showdown. Form fact finding committees like the one on which Mr. Shock of the Contractors' Association served, and gather data from all parts of the country. Show them how progressively bad the matter is getting and how soon the crisis will arrive. Educate them as to what refrigeration is. Most of them don't know. Tell them that the only way to relieve the situation is to grant furloughs to service engineers and not to try to teach the art to others.

There is not a bit of doubt in my mind that an A-1 service engineer has a more vital job at home to do than any the Army could offer him. Furloughs have been granted to some copper miners who were in the Army to relieve the shortage of labor in the mines. The government only acts in a crisis. Let's show them that a crisis exists in our field.

I have always looked upon your publication as being highly advanced and fearless. As you may know I was with Carl's Refrigeration in Detroit. I hope this letter will help to get this move started.

PVT. HARRY W. CUSTER, A.S.N.—36869903
306 Ord. Maint. Co. (A.A.)
A.A.A.T.C., Fort Bliss, Texas.

SERVICEMEN HAVE MORE FUN!

1523 Sixth Avenue
Bradenton, Fla.

Editor:

I once wrote you about the "Forgotten Service Man," and you requested other humorous experiences. So it's your funeral.

The last service school I attended strongly urged us "to always spread a clean white cloth on the floor in front of the refrigerator. Then place our tools neatly thereon and also stand or kneel on the cloth to perform the service operations."

I recently caught a little time from commercial calls and made a call on a domestic box. I not only failed to spread a white cloth but the lady of the house, unprompted by me, stood by with a large palm leaf fan and fanned me with a cooling breeze all the time I worked on her refrigerator. My wife was with me and will make affidavit to this one. I am the only one in a county of 10,000 or so and I really rate, sometimes.

I was called to service an ice cream cabinet in a large parlor and try as I might I could not find anything wrong. Pressures, frost line, refrigerant, compressor, everything was perfect but one end of that cabinet would run soft cream and the other end would run hard cream. Finally in disgust I went over and sat down. Then and only then did I notice that a brunette was dipping cream out of one end and a red head dipping from the other end. Amen.

A. R. Pool

FOR THOSE WHO WOULD LEARN

7200 So. Wood St.,
Chicago 36, Ill.

Publisher:

A book that I really like is the No. 1 Master Service Manual. I can't say too much for this book. It is very well written by a man that really knows how to teach people. If you can't learn from this book—you just can't learn anything.

I never heard of the man before but from now on anything written by K. M. Newcum will be read by me from stem to stern. I like the way he explains things.

HAROLD HEIMBACK

IMPORTANT LINK

Valley Sales & Service Co.
606 Rebecca Avenue
Wilkinsburg, Pa.

Editor:

AIR CONDITIONING & REFRIGERATION NEWS is one of the most important links of our business today.

R. Sladek, Manager

Andrews Analyzes 3 Postwar Markets For Air Conditioning

(Concluded from Page 11, Column 5)

and if we can develop a good low cost combination heating and cooling system for the home, we can take full advantage of that new construction market.

Commercial Air Conditioning.—

While the pre-war growth of residential air conditioning was substantial, that of commercial air conditioning was more so. The reason for this, of course, was the early realization upon the part of the merchant that air conditioning was a means for increasing profits.

Despite the growth of the commercial market, it is by no means anywhere near the saturation point. The following tabulation will show the low percentage of various commercial establishments in the nation that are air conditioned:

1941 SURVEY

Classification	Approximate % Air Conditioned
Office buildings	5.5
Apartment Houses	.5
Drug Stores	1.5
Restaurants	2.5
Banks	3.0

We can create a greater future increase in demand for commercial air conditioning through the development of equipment that is more compact, more easily installed, with more capacity per dollar outlay, and by marketing that equipment through a strong promotional program.

For one or two years after the war the commercial market will probably show no substantial change from the conditions that existed in 1940 and 1941. That is, from the manufacturer's standpoint, it will probably be a $12,000,000 to $14,000,000 annual business. The rate of expansion will depend on the rapidity of product and price improvement and the aggressiveness of promotional work.

The indications are that the commercial market will increase tremendously in the postwar period, particularly in small stores, neighborhood theaters, apartment houses, hotels, and office buildings.

Industrial Air Conditioning.—

Of the three air conditioning markets, the industrial market is the oldest but until 1940 and 1941 it has been slow in growing.

The experiences with air conditioning in war production will be an important factor.

The necessity for producing more improved products faster, brought about by the demand of the war, has led to new applications for industrial air conditioning. Some of these are in gear cutting rooms, gauge rooms, in the optical industry, and the abrasive industry. There are many others.

The dollar volume of industrial air conditioning business in the immediate postwar period will probably not be any greater than it was in 1940; rising perhaps in a year or so thereafter to the level of 1941. Further increases, of course, depend upon our ability to prove the value of air conditioning to more and more branches of industry.

CONCLUSION

It is evident that all types of commercial refrigeration and air conditioning offer large potential markets, but in closing I am reminded of an even greater opportunity for future business.

It's an accepted fact that we in the United States have led the world in the use of refrigeration in our food production and distribution industries. Consequently we have enjoyed a better and more varied diet with resulting better health. But even we have hardly started to capitalize on what we already know about preserving the quality and nutritive value of foods.

More than half of our fresh fruits and vegetables are never refrigerated and a much larger percentage are not refrigerated in retail stores.

Why is it that California and Texas vegetables like carrots, celery, spinach, and lettuce command from two to as high as five times the price of locally grown products on the New York market?

The answer is largely that the distant shippers refrigerate their products carefully and the local growers do not.

Aren't we approaching the time when all fresh fruits and vegetables will be refrigerated immediately on harvesting and on through storage, transportation, and in the retail stores? The air conditioned retail food stores of the future are not only a matter of customer comfort but also a definite contribution to higher food quality.

Our canned and bottled food products are now placed in common storage with no refrigeration. Yet we know that in six months at 75° F. or in six weeks at 90° F. certain fruit juices will lose 50% of their vitamin C and suffer similar depreciations in flavor and color.

High storage temperatures depreciate the quality of all canned goods. Why shouldn't these products be stored at temperatures below 60° at all times with the aid of refrigeration equipment.

Lauer and Lawler Offer Viewpoints On Markets

A straightforward critique of Mr. Andrews predictions about future demands was made by S. E. Lauer, president, York Corp., one of the commentators on Mr. Andrews' subject.

Mr. Lauer made the following points about some of the specific estimates in Mr. Andrews' paper:

1. It was too optimistic on the possible sale of freezer cabinets.
2. It underestimated the possibilities of the sales of room coolers.
3. There was a lack of attention to the matter of the commercial freezing of foods in plants technically designed for such purposes, which would shift the emphasis on frozen foods "storage" cabinets rather than "freezer-storage" cabinets.

"The room comfort cooler and the frozen food cabinet have more difficult 'customer acceptance' problems than have many other items sold by the industry," Mr. Lauer warned.

Basis of this problem, he said, is that because of the nature of the medium with which they operate (air conditions in the case of the room cooler and foodstuffs in various conditions in the case of the freezer cabinet) it is not always possible to produce standard results.

"The single purpose room cooler must be designed to provide substantial cooling at proper noise levels and at the same time eliminate the smoke and odor problem," he said.

M. M. Lawler, sales manager of the air conditioning division of Worthington Pump & Machinery Corp., suggested that the discussion on "Future Markets" had somewhat overlooked the industrial refrigeration market, and said that the refrigeration industry had "its roots" in the industrial field.

He pointed to the advances made in petroleum chemistry and also to improvements in metal working fields by use of refrigeration and air conditioning as possible greatly expanded markets after the war.

Furthermore, said Mr. Lawler, "blackout plant" air conditioning need not be peculiar to the wartime era, because it has been proved that improved working conditions in such plants because of air conditioning have brought about increased production.

"SYNTHETIC ARCTIC WEATHER," one of many precision-control applications of A-P Dependable Refrigerant Valves, is typical of refrigeration's important contribution to Victory today. At production centers, these refrigerated test chambers, accurately controlled at any temperature, duplicate the blustery high winds, and paralyzing cold encountered at all our far northern outposts. Here clothing and fabrics, guns and equipment, are quickly pre-tested for sub-zero combat service — successfully proved at a saving of time, money... and lives.

Providing accurate DEPENDABLE Control Valves for these new applications of refrigeration-at-war has been routine wartime service at Automatic Products Company.

They're but the forerunners of even more amazing adaptation of refrigeration to peacetime progress... progress already indicated by the "dreams" of many post-war planners. When your plans are ready, we offer the facilities of the A-P Research Laboratories to help you in their development. Use this service to your profit.

AUTOMATIC PRODUCTS COMPANY
2450 North Thirty-Second Street
Milwaukee 10, Wisconsin
Export Department: 15 East 40th Street, New York 16, New York

Stocked and sold by progressive refrigeration jobbers everywhere — used and recommended by leading service engineers.

A-P Model 205 Thermostatic Expansion Valve.

For a Speedy Victory... BUY MORE WAR BONDS TODAY!

Thermostatic Expansion — Solenoid — Constant Suction Pressure — Water Regulating — "Trap-Dri" System Protectors — Water Solenoids — Cooling Thermostats.

DEPENDABLE
REFRIGERANT VALVES

STOCKED AND SOLD BY PROGRESSIVE REFRIGERATION JOBBERS EVERYWHERE
—USED AND RECOMMENDED BY LEADING SERVICE ENGINEERS

Food Freezer Firms Must Design for 2 Different Markets—Farm & Home

Heavy Demand for Low Temperature Cabinets Certain, A. S. R. E. Told

PHILADELPHIA — Two separate and distinct fields for the distribution of low temperature cabinets—one for the average home, and the other for the farm market — were visualized by James K. Noel, president, Victor Products Corp., in his talk "Domestic and Farm Freezing Cabinets," made before the annual A.S.R.E. convention here.

"For months past our industry has been hoping and working for a sane and protective postwar program," said Mr. Noel. "Even prior to Pearl Harbor some manufacturers were producing a low temperature freezer for storing and holding frozen food products after such products were processed and frozen at a central point.

"Some were manufacturing a complete unit that would quick freeze and store food products for the farm and the home. These units ranged in size from approximately 6 to 40 cu. ft. capacity.

"I question whether these manufacturers fully realized at that time the possibilities of the field which was being exploited or entered. The method of production was costly, and typical of many new items being introduced to the American public, there were errors and mistakes both in the design and the operating efficiency, as well as the inconvenience to those using the equipment.

MODELS WERE COSTLY

"The models offered to the public, in many instances, were costly from an initial investment standpoint, largely brought about by methods of production and not knowing the size or capacity that would be generally accepted or meet the needs of the public.

"So other manufacturers, catering mostly to farm requirements, were able, in a short time, to determine that the larger sized models filled the needs of the farmer and that the models used in the home were mostly of the smaller sizes, the latter primarily by reason of space and the requirements of the average American family.

"As this field was being developed, a few individuals in Asia and Europe decided to plunge the world into a war, which greatly curtailed raw materials as well as foodstufis, and which quickly brought the public to a full realization of the needs and necessity of such equipment as the means of preserving and holding food products which, when properly handled, surpassed foods preserved by other methods. Manufacturers were quick then to realize the demand that now exists, and will continue to grow in the postwar era.

NO RADICAL CHANGES LIKELY JUST AFTER WAR

"The public should not expect to get revolutionary designing in these freezers too quickly after hostilities have ceased, as the methods formerly followed in the production of any new item will govern our advancement in this particular line.

"The manufacturer who performed miracles in the production of war materials, can and will do, without government interference, the same for the postwar customer. But this will require time — to secure tools, dies, jigs—to bring about a production that will enable the manufacturer to cut the cost to the very minimum so the public in general can afford to buy these items at a reasonable price.

PUBLIC IS INFORMED

"Much research has already been done to inform the public as to the best methods of preparing and freezing food products. Our various agricultural schools have devoted considerable time and money to this work.

"The demand for freezers of this kind will be enormous and unquestionably manufacturers of domestic refrigerators have likewise sensed the possibilities of this field, and in all probability a low temperature compartment to store frozen foods will be incorporated in some of the postwar household refrigerators. But this still leaves a vast market for the manufacturers specializing in the freezer unit.

"Already companies have been formed and plans laid to distribute frozen foods as a postwar business, and in some instances the food will be centrally processed and frozen and delivered periodically to the housewife who will have either a leasing arrangement with such companies for, or purchase outright, a low temperature unit to hold such products. The size of these domestic or household units will be in the smaller capacities.

"So one can readily visualize two separate and distinct fields for the distribution of low temperature cabinets—one for the average home, and the other for the farm market.

"The designs of such freezers will of course vary; some will be of the chest type, others of the vertical type; but the basic method of quick freezing and the temperatures to be maintained will, of necessity, be similar.

"For instance, it has been developed by research that quick freezing can be done best in moving air at 0° F. temperatures, than in still air at a —25° F. temperature.

"However, in our own production, prior to Limitation Order L-38 of the War Production Board, we manufactured approximately 50% of our low temperature units without moving air. The others were manufactured with moving air. Now we will profit by our past experience, yet our postwar models will not be the ultimate in perfection, as further research and development will lend itself to improvement from time to time.

"The American public always wants an item of any kind that has at least been proved and is as nearly foolproof as possible. With this in mind all of us are fully aware of the necessity of manufacturing freezers of this character in mass production in order to offer the equipment at a price which can be afforded by the market, whether it be the home or the farm market.

"The field exists for both the locker system and the self-contained individual freezer, and the manufacturer must consider two major points:

"(1) a properly designed unit for efficiency and performance; and

"(2) simplifying the sizes so as to permit mass production.

WHAT IS *United* DOING THESE DAYS?

★ *This is a brief report* of what United is doing now, and has been doing the past two years . . . what United plans to do when the war ends.

Since Pearl Harbor, United has been engaged one hundred percent in the war effort. Our plant has doubled in size, operates day and night and its wartime output multiplies many times our best pre-war year's production . . . All of which explains why there are no United refrigerator units for any but essential war needs . . . and why there will be none until Uncle Sam finishes his job.

However, out of this situation comes a reassuring note for the future. When V-Day comes, United will not be faced with the problem of reconversion. What we make in wartime is practically what we make in peacetime . . . the products we best know how to make, and for which our plant and facilities were designed.

The production advantages created by our war-expanded facilities are obvious. But the ability to produce more is of less importance than the new skill, experience and knowledge we have acquired to build better. Out of United's wartime laboratory will come many improvements in refrigeration engineering, design, construction and materials.

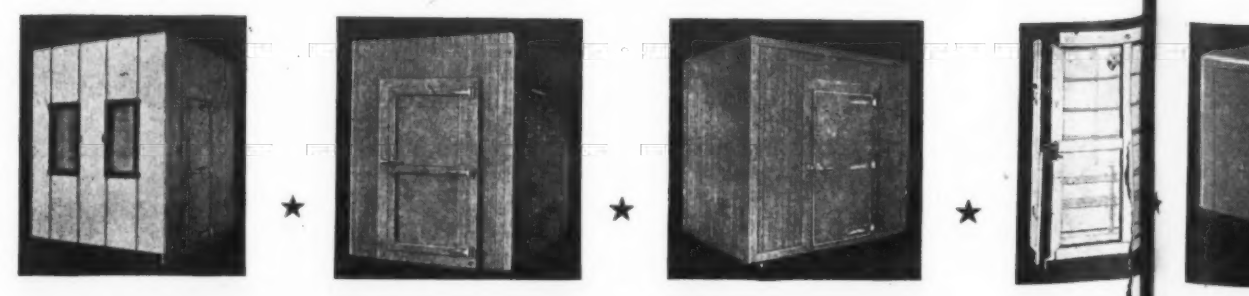
And with these new technical developments will come a unique selling, advertising and merchandising program through which United distributors may expect to win a generous share of the postwar market . . . and command a position of leadership in the refrigeration field. *Keep your eye on United . . . there are big things ahead!*

UNITED REFRIGERATOR MANUFACTURING CO., INC., Hudson, Wis.

Sales Division: Saint Paul, Minnesota • Chemical Division: (Silica Gel) Saint Paul, Minnesota

AFTER V-DAY?...NEW PRODUCTS, NEW PLANEW

Remember?...These are some of the lines United made before Pearl Harbor ★ ★



EVERY BOND YOU BUY ADDS TO YOUR STAKE IN THE D STA

Philadelphia Branch Of York Is Moved

PHILADELPHIA.—New headquarters for the Philadelphia branch of the York Corp., were announced by M. S. LeBair, manager of the local branch. The new location is at 1616 Walnut St.

The York Philadelphia headquarters, established since 1908, were formerly at 1238 North 44th St. The new offices will be used for all engineering, sales, maintenance and service work while the 44th Street building will house the company's regional construction and accounting covering work in Boston, Atlanta, New York, Cleveland and Philadelphia.

A. L. Rose Named Dole Secretary-Treasurer

CHICAGO—O. L. Rose has been appointed secretary and treasurer of the Dole Refrigerating Co., it is announced by E. J. Tweed, president.

Mr. Rose has been with the Dole Co. staff for the past six years.

Bristol Issues Data Sheet

WATERBURY, Conn.—The Bristol Co., manufacturers of industrial recording and controlling instruments has recently printed a data sheet on their recording thermometers for applications in frozen food locker plants.

Salesmen Vital to Postwar Prosperity, Declares Manufacturers Group

NEW YORK CITY—"Salesmanship must bear the brunt of the postwar challenge to the American system of free competitive enterprise," declares the Postwar Report of the National Association of Manufacturers, which was distributed to the group's recent War Congress of American Industry here.

Nominating the salesman for "the forgotten man of the all-out war," the committee report stated that "when production of consumer goods is resumed the volume of trade again will depend upon salesmanship."

"Much attention has been directed at buying power, but wanting power as stimulated by salesmanship and advertising, has nourished the tree of prosperity and produced its fruit," says the report. "The urge to improve one's standard of living is the strongest stimulus to industry and thrift."

The war has shown that the country has a production capacity far in excess of any pre-war output, the report continues, which leads to the obvious postwar problem of getting production to consumers on a vast scale, if production and consumption are to approximate levels needed for higher living and substantially fulfill employment.

Apartment Heating System Trend Is To Individual Control

MINNEAPOLIS—Trends of postwar apartment design and construction were revealed here Dec. 11 when the Minneapolis-Honeywell Regulator Co. announced the winners of its $10,000 heating design contest.

Based on plans for a six-story apartment building, prizes were awarded to 26 architects and heating engineers for designs of a system of steam heating and its control, and a system of hot water heating and its control, John E. Haines, manager of the company's space heating controls division said.

DETROITER IS FIRST

First prize for the system of steam heating was awarded to Clyde H. Baker, architect of Detroit, and first prize for the hot water heating system was won by Leonard Weger, Philadelphia architect. First prizes were $2,000 each.

Second prizes of $1,000 went to Paul E. Nystrom, Madison, Wis., for steam and to Walter T. Rolfe, Austin, Tex., for hot water. Third prizes of $500 were won by Abraham Walton, Jersey City, for steam, and John A. MacWilliam and Abraham D. Rubin, Perth Amboy, N. J. for hot water heating. In addition there were 20 honorable mention awards of $150 equally divided between steam and hot water heating systems.

'PERSONALIZED HEAT CONTROL' USED BY ALL ENTRANTS

"All contest entrants provided for personalized heat control," Haines said, "so that every occupant of postwar apartments will be able to determine and control the exact temperature he desires in his own living space."

More than 2,000 architects and heating engineers entered the contest, Haines continued, and of these 513 submitted plans in the competition. Entries were received from nearly every state in the union and the prize winners were located in all parts of the country, indicating, he said, that interest in postwar apartment building is not confined to large eastern and far west cities, but is nationwide.

Analysis of systems submitted in the competition indicates a very definite trend away from one-pipe steam systems the Minneapolis-Honeywell official stated.

IGNORE THE JANITOR

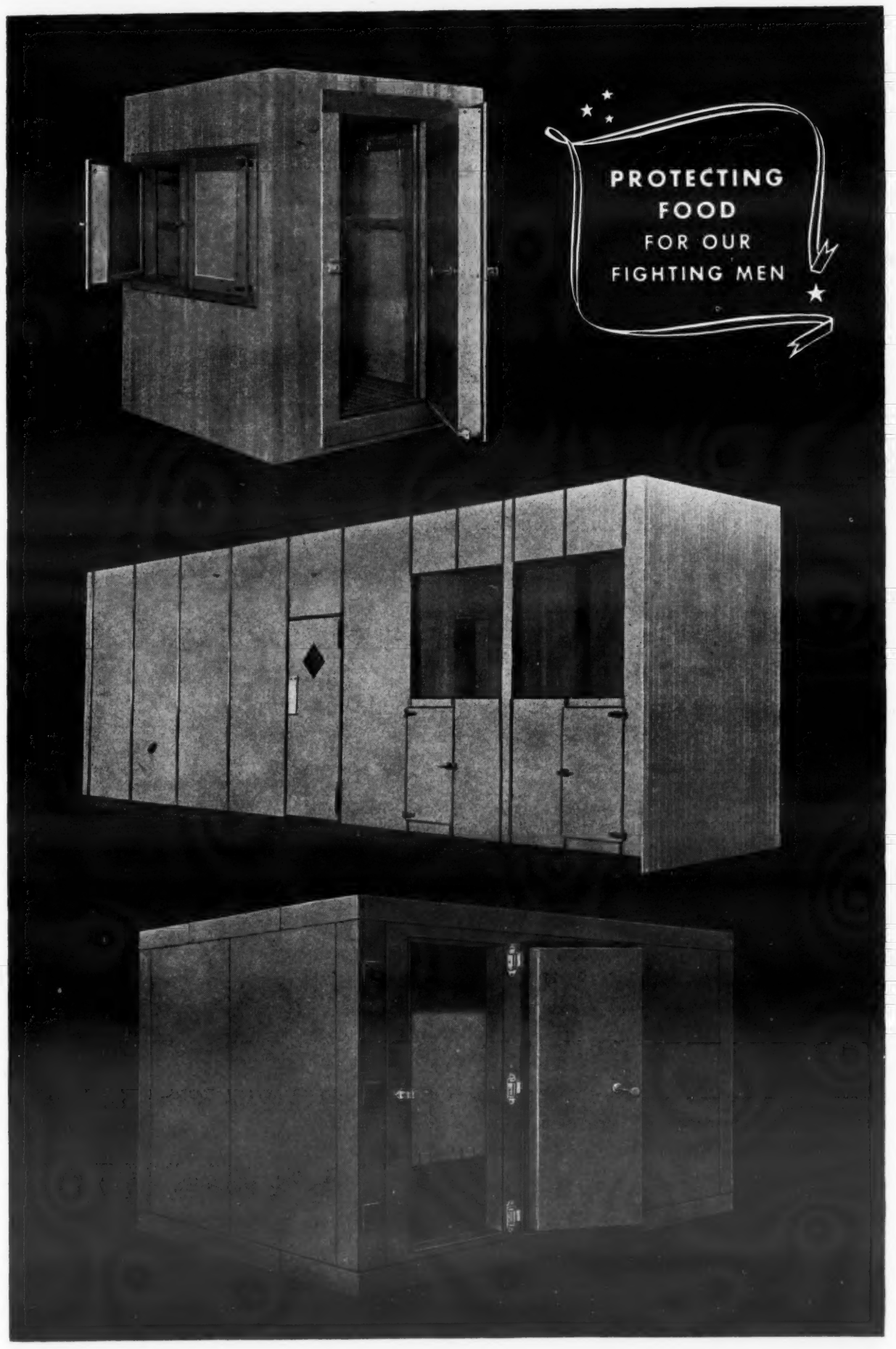
Postwar apartment dwellers will not have to open windows to cool off, nor cajole the janitor for more heat, Haines said, because each individual tenant will be able, if such personalized heating systems are adopted, to control the amount of heat going to his apartment by the thermostat mounted in his own living space. This thermostat will operate controls leading off from the central heating system and automatically hold apartment temperatures at the point selected.

"Personalized heating represents the latest advance in apartment design," he continued, "and after the war will be as common as the electric refrigerator which has become an integral part of all apartment houses."

84% IN APARTMENTS WANT THEIR OWN CONTROLS

An independent research corporation, at the instigation of Minneapolis-Honeywell, recently surveyed approximately 1,000 apartment dwellers in typical U. S. cities, Haines said. The survey disclosed that 84% of the people living in apartments believe that it is either necessary ro desirable to have their own control over the amount of heat being supplied to their personal living space. Because of this, he stated, personalized apartment heating will be of considerable advantage to apartment house owners because apartments will be more easily rented and the added tenant satisfaction will result in longer leases.

"The survey showed that 48% of the people interviewed were willing to pay an average of $5 a month additional rent for individual apartment heating control."



★

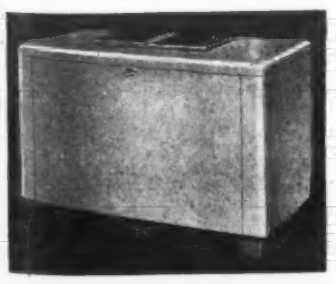
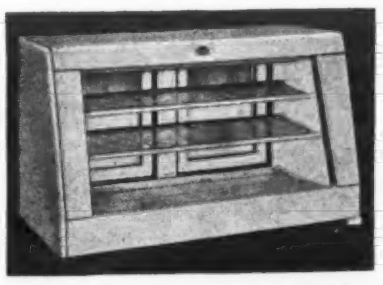
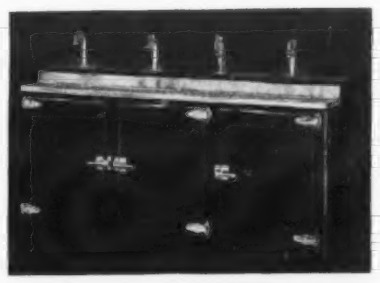
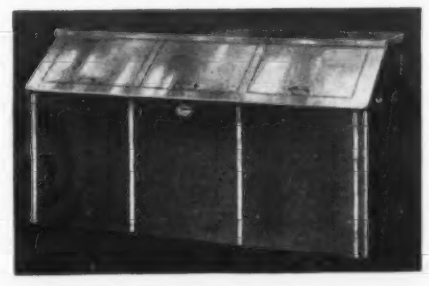
Proudly United Answers . . .

★

United is building . . . among other war products . . . what we like to describe as "Ammunition Boxes" . . . walk-in coolers for Uncle Sam's training camps, combat bases, ships, etc. . . . refrigeration units which protect our fighting men's food . . . food as vital to them as the ammunition they unpack from the cases we also build.

★

NEW OPPORTUNITIES FOR UNITED DISTRIBUTORS


★

★

★


D STATES . . . WHEN IT'S OVER, UNITED CAN HELP YOU INCREASE THAT STAKE!

Cloud Wampler Offers Proposals To Better Industry's Relations With Gov't and Public

PHILADELPHIA — Much greater attention must be given by the refrigeration industry to the economic and governmental "climate" in which postwar business will be conducted, and to this end a better overall representation of the industry to the government and the public is a major step to be taken, declared Cloud Wampler, president, Carrier Corp., in addressing the Refrigeration Industry Forum on the subject "Our Industry, the Government, and the Public."

"The future of our industry rests quite as much upon a proper relationship with government and the public as it rests upon engineering, manufacturing, installation and distribution efficiency," Mr. Wampler asserted.

"The war has done great things for us. The intrinsic usefulness of air conditioning and refrigeration has been dramatically demonstrated. The misconception that our products are luxury items and nothing else has been largely dispelled. And the companies in our field have become—under the pressures of war—better manufacturers.

"On top of all this there is being built up a vast unrecorded backlog of orders for air conditioning and refrigeration equipment — a pentup civilian demand of huge proportions that will have to be satisfied when the war is over.

"But, it could be that these potentialities cannot be capitalized. For the future of our industry—indeed of all industry—depends in high degree on the character of the climate in which we will seek to conduct our business.

"Here, I cannot resist the temptation to make a play on words. Broadly speaking, our industry produces whatever climate is desired. Now then, if we are any good at our job, we ought to make a noteworthy contribution to the creation of the most important of all climates. And that climate is the economic climate of the postwar period, which must be favorable to the expansion of enterprise.

"And, if we are to have a favorable climate, all policies of government, business and labor that stifle initiative, and interfere with expanding production and employment must be changed.

"To bring about the necessary changes there are many things that can be done. First, we, as individuals, must accept certain responsibilities and discharge them adequately. The same holds with respect to companies. Similarly, our industry has a job to do and the best possible medium for the accomplishment of the results which must be achieved should be created.

MORE TIME ON PUBLIC MATTERS

"As individuals, we can no longer confine our efforts to doing business in the good old-fashioned way. A certain amount of our time must be devoted to matters of public interest. It would be presumptuous for me to suggest an over-all formula in this connection. But I will say that the senior executives of every company represented here today should devote approximately one-third of their time to that broad field known as Public Relations.

"As far as companies are concerned, there should be a considerable dedication of effort to the doing of a better job in our own backyard. And by this I mean that we who direct the affairs of our companies should pay more attention to influencing the thinking of the men and women who make up our organizations than we have in the past.

"Let me be very personal for just a moment. In 1942 I made a lot of speeches. In general my subject was "Free Enterprise." Almost without exception my audiences were composed of people who thought pretty much as I did. Accordingly, I was trying to sell a bill of goods to people who were already sold.

"In 1943 I made a shift in strategy and today I am devoting a great deal of time to making sure that the people who work for Carrier Corp., and particularly those in the lower compensation brackets, are made aware of what business is, how it must function, and the necessity of a good climate.

"Time does not permit any expansion of this point. But if any of you would like to know more about how Carrier is doing this job, just drop me a line and I will see that you receive the story of the Carrier Institute of Business, which I believe is a genuinely constructive and forward-looking movement in the field of industrial and public relations.

"Now we come to industry's responsibility. As many of you will remember, your president, Mr. Logan said in Detroit early last October that it is of vital importance for refrigeration men to set up one voice that speaks for the industry. Furthermore, to quote from the press, Mr. Logan "assailed the lack of an overall representative group, stressing the fact that there are at least 32 different organizations representing sections of the refrigeration and air conditioning industry."

'ONE VOICE' IS INDUSTRY NEED

"Here again time is so limited that detailed suggestions are impossible. However, I would like to say this: Our industry certainly does need one voice. And that voice should be truly representative, but at the same time not so large as to be out of tune and therefore, ineffective, because of lack of agreement on policies and objectives.

"Perhaps there is in existence today some organization around which a genuinely representative body can be built. Frankly, I don't know. But I do know that our industry will not speak with the authority to which it is entitled unless we put aside the narrow approach for the broad approach and organize ourselves on a sound basis.

"Obviously, this implies future action and as we look to the future, it is evident, I think, that we must consider three periods. First, wartime—the current period. And, of course, the first job of our industry, and all others, is to produce whatever it takes to win the war.

"After Victory will come the transition period. And the task of getting ready for transition, and the proper handling of industry matters during the period is a major assignment. No matter how bright the future of our industry may be, and no matter how carefully we lay postwar plans, the translation of these into worthwhile action will be quite impossible unless sound policies are established and executed with respect to:

"1. Settlement of terminated war contracts.

"2. Demobilization of armed forces and war workers.

"3. Liquidation of wartime controls.

"4. Disposal of government owned plants and surplus war supplies.

"5. Reorganization of the federal tax structure.

POLICY ON USED ARMY UNITS

"With respect to all of these a truly effective organization of companies engaged in the refrigeration and air conditioning business could be most helpful. Consider, by way of example, the problem of what shall be done with refrigeration equipment now owned and operated by the Army and Navy, but which will eventually not be needed by the Armed Services.

"I can well imagine hundreds of Carrier compressors being sold to some second-hand outfit that will offer them in bad condition at low prices to a lot of our potential customers. Such a program will hurt us and everybody else, except the second-hand dealer. So we ought to do something about it.

"Here is a specific suggestion. Let's counsel the Armed Services to permit us manufacturers to buy back our own products at a fair price. If this is done, the equipment can be properly reconditioned and sold in the right way to the right people.

"It is difficult for me to refrain from doing some talking about other problems of the transition period. Take terminated war contracts for example. If, by any unhappy chance, the office of the Controller General gets its hooks on this vital element of the reconversion process Lord help us!" Then there is the matter of government owned plants. These **must not** be placed in competition with private enterprise. Finally, and perhaps most important, are the federal tax laws. And if these aren't revamped we might just as well "kiss the American incentive system goodbye."

REPRESENTATION IN WASHINGTON

"Let's try to get down to brass tacks by looking at some of the things that happened between Pearl Harbor and the present. Is there anyone here who really believes that our industry was well represented in Washington during the early part of the war? I don't think so.

"Then take the matter of proving to government the essentiality of the equipment which we manufacture. Maybe I have missed the boat, but I have seen very little in the way of a well organized effort to influence the opinion of government favorably toward that which we produce and seek to distribute. Not long ago one of the associations having to do with refrigeration and air conditioning published a very impressive brochure that had a lot of selling punch to it. But this came very late in the game.

"Right now I can't help but wonder whether an adequate presentation of the case of our industry is being made looking toward an early return to the production of air conditioning and refrigeration equipment for civilian use. Sure, we hear on all sides that domestic refrigerators will be released in the near future. But how about commercial refrigeration and air conditioning? As far as I know the soundness of producing anything other than domestic refrigerators for civilian use is not being adequately presented. And it should be—by an association that is truly representative of our industry.

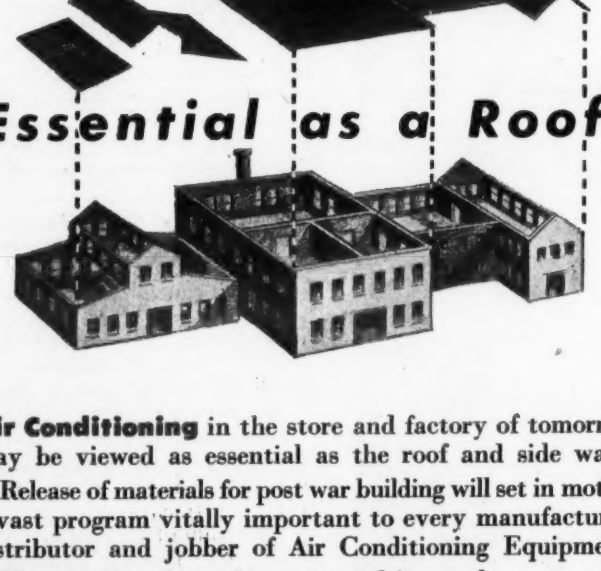
JOB FOR A UNITED INDUSTRY

"But the value of a truly representative association goes far beyond anything I have mentioned thus far. One of the greatest values of such an organization is that provides a medium for the exchange of constructive ideas. A meeting place, if you will, for those who guide the affairs of individual companies. And if views are freely exchanged—as they have been during wartime to a greater extent than ever before—it is highly probable that this or that company will not go off the deep end, in a manner that will detract from the accomplishment of our industry as a whole.

"Being even more specific, it occurs to me that postwar there may be a big job to be done along the lines of telling America what air conditioning really is. To most people air conditioning means cooling, and nothing else. And, unfortunately, the most frequent impressions of air conditioning are received in spots where air conditioning is at its worst; namely, the movie theatres and the railway trains.

"Is it too difficult to visualize a well-timed institutional advertising and public relations campaign that would teach the public what they have a right to expect when they buy air conditioning?"

AIR CONDITIONING



Air Conditioning in the store and factory of tomorrow may be viewed as essential as the roof and side walls.

Release of materials for post war building will set in motion a vast program vitally important to every manufacturer, distributor and jobber of Air Conditioning Equipment.

The need has been demonstrated in nearly every community during the war years. Translating this need into more business is the future job of wide awake men in the Air Conditioning industry.

Complete Air Conditioning Systems — Refrigeration units—quick-freeze coolers have been put to new uses during the war. When peacetime brings a return to normal conditions, these tools of Air Conditioning will be available —improved, more efficient, and perhaps less costly than ever before.

USAIRCO has 20 years background in the field of comfort cooling and air conditioning. The complete USAIRCO line of Blowers, Unit Heaters, Coils and Washers now on duty on war fronts and production lines, will again serve the retailer or Industrial operator who expects Air Conditioning to make a profit for him.

NOW IS THE TIME TO PLAN AHEAD. The future of Air Conditioning depends on today's careful planning. Make it a point to discuss your Air Conditioning plans with USAIRCO.

UNITED STATES AIR CONDITIONING CORPORATION

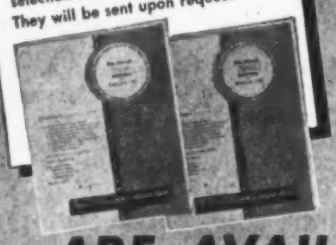
Manufacturers of the most complete line of air handling equipment.
Factory representatives in principal cities.

NORTHWESTERN TERMINAL • MINNEAPOLIS, MINNESOTA

USAIRCO Air Conditioning EQUIPMENT

Send For These Bulletins

Bulletins MU-182 and MU-183 contain information that is necessary in the selection of the right motor for the job. They will be sent upon request.



Wagner MOTORS

FIELD ENGINEERING SERVICE

Wagner maintains 25 branch sales and service offices conveniently located throughout the United States. Each one of these branches is manned by trained field engineers who are ready to assist you in solving your motor application problems.

ARE AVAILABLE FOR ALL OF YOUR EQUIPMENT USED IN WAR WORK!

Wagner Electric Corporation ★ 6441 Plymouth Avenue, ★ Saint Louis, Mo., U.S.A.

J. S. Forbes Suggests Industry Establish a Laboratory To Improve Standards & Practices

PHILADELPHIA — The specific proposal that the industry set up a fully equipped research and development laboratory was made by J. S. Forbes, president, Superior Valve & Fittings Co., in his commentary on Mr. Wampler's talk "Our Industry, the Government, and the Public."

Following are some of the thoughts on this and other matters advanced by Mr. Forbes:

Mr. Wampler has suggested that the future of our industry—indeed all industry—depends to a high degree on the character of the "climate" in which we will seek to conduct our business.

He has emphasized that a certain amount of the time of all of us in high and low positions should be devoted to matters of public interest and that the apathy that existed before concerning our government should have been drowned by the unity of our war purpose.

NEED OF A SINGLE VOICE

This same kind of unity should apply to our thinking as an industry in developing a single voice that can speak for the entire industry, as such.

One of its biggest jobs will be to dispel the idea that the products of our industry are luxury goods and to influence a common thinking that they are truly essential in peace or war.

Mr. Wampler mentioned that in these days we hear that the results of tomorrow will be measured in terms of jobs—well, who ever heard of a business organizer seeking new capital simply to make jobs for the working man, and who ever heard of investors risking their lifetime savings for that purpose.

Why doesn't this Society take the initiative to develop the equivalent of a "Good Housekeeping" laboratory to test the numerous products and by-products of this industry and to establish ratings and standards on a strictly impartial basis.

PROPOSAL FOR A LABORATORY

It is my belief that some day this Society will have its own fully equipped laboratory for research and development and standard ratings, and that paid full time employes will operate it strictly independent of individual company influences.

Such a laboratory could develop technical procedures for the non-technical men and promote orderly installation and service work that would be a credit to the industry.

It's conceivable, also, that this same laboratory organization could guide educational meetings of service men in such matters of a technical and non-technical nature, as standards of design, standards of service, the proper understanding of each other's functions to the overall industry contribution, self-improvement, salesmanship, trade practices, and business principles.

And then we must not forget the very important contributions that have been made to this industry by the refrigeration supply jobbers and the independent refrigeration service men. Both have developed in spite of the industry.

It is my belief that the widespread distribution of American engineered products during this global war will break down the barriers to general worldwide acceptance of American standard dimensions. The Federal Program of Standardization and Simplification of Industries products will also play a very important part.

I have been told that the sale of a refrigeration unit by an American manufacturer for installation in Paris might present any of nine different electrical problems alone, such as voltage, wattage, or cycles per minute.

Information from trade services leads me to believe that our Lend Lease Program is paving the way for popular acceptance of American production marvels for much of our war surpluses will be sold by Lend Lease abroad.

'DREAM' PRODUCTS MISLEAD

We should not permit the buying public to hope for impractical things. Ours is a mass production minded nation where a tremendous amount of time is required to tool up for new models before actually marketing them.

It's my belief that the early postwar products will look like and be like the prewar models of our favorite auto, refrigerator, radio, and other gadgets.

People don't change their buying habits as fast as our sales managers would have us believe. They cling to their old fashioned habits.

The task of the government should be to determine the standards by which business is to operate in such a way that business men will know **where they stand, what they can do and what they cannot do.** Pleas for business should be left to business and not be prescribed by the government.

No business can correctly estimate the cost of its products, and consequently the selling prices until it knows the conditions under which labor can be obtained, not only from day to day but from month to month, and this will require a stable labor market.

We should not forget that any effort to control prices but not costs will have the effect of starving profits.

Ours is an industry that employed a high percentage of young men, thus we were hit harder by the draft than many other industries.

One of the biggest improvements necessary in the postwar products is reduction of maintenance costs and this brings up the point of **quality production** as opposed to **mass production.** When we reach the state of **quality mass production** it will be many years away.

With the gas turbine, Propane and Butane as refrigerants for mobile equipment may play an important part because they can also be used as fuels.

Canada Ends Licensing Of New Installations

OTTAWA, Ont.—An order issued by the Munitions and Supply department of the Canadian government recently provides that no license shall be required for installing refrigerating equipment as was formerly the case under a previous order.

The Canadian controller of Construction, John Schofield, also announced that in ascertaining the total cost of a project consisting in part of such installation, no account shall be taken of the cost of the installation.

Cosgrove Tells How Businessmen Can Place Problems Before Congressmen

PHILADELPHIA — "A 'concrete' program to promote industry's viewpoint to the elected representatives of the people, to the people themselves, and to the non-excutive personnel in industry is something that industry should be stirring itself to doing right now," declared R. E. Cosgrove, vice president, Crosley Corp., in commenting on the subject "Our Industry, the Government, and the Public."

"We need a concrete program to implement Mr. Wampler's views on the matter of participating much more fully on those things pertaining to the public interest," declared Mr. Cosgrove.

"In Cincinnati we have inaugurated a plan which is giving us a better hearing with our elected representatives in the national government.

"This is done by having some of the various civic and businessmen's groups invite our Senators and Representatives to talk to us and tell us just what they have done to represent our interests.

"The congressmen have jumped at the chance to appear before us and explain their stands on various matters, and at the same time we have had an opportunity to explain our problems to them, and to tell them how we feel about national problems.

"One thing that we have learned from such contact is that the politicians complain that they get very little in the way of specific recommendations from the businessmen.

"There is plenty of grumbling from the ranks of business, and much of it reaches the politican's ears, but too often when he asks sincerely for a specific recommendattion for a course of action he gets no answer.

"So—if you've got something to tell your Senator or Representative, just don't gripe, but suggest a constructive course of action."

Another thing that industry must do is to sell business as "Business" in its own back yard.

"Talk to your labor, let them in on your problems—and your plans.

"Are you telling labor about your postwar plans? Your labor has a big stake in postwar plans too, and if you tell your workers about such plans now, they may find ways to help you later."

Alberta Premier Wants Locker Plants Postwar

OTTAWA, Ont. — Construction of 500 refrigerator lockers for rural communities in the Canadian province of Alberta is suggested by Premier Ernest C. Manning of Alberta as part of a plan for postwar employment in agriculture.

Premier Manning made his reference to the refrigerator lockers in presenting his province's proposals for postwar reconstruction before a House of Commons committee here.

HERE IT IS!

AIRO'S NEW 1943 VICTORY CATALOG

AIRO's new Wholesale Catalog is completely revised from cover to cover. Each page chock-full of quality merchandise priced economically — and each item available. Get your supply of refrigeration parts, tools and supplies from this Up-to-the-Minute Catalog.

The supply of these catalogs is limited, so if you haven't requested your copy yet, DO IT TODAY! Simply write us a note on your letterhead.

AIRO SUPPLY CO.
2732 N. Ashland Ave., Dept. B, Chicago, 14, Ill.
WHOLESALE DISTRIBUTORS
Refrigeration Parts and Equipment

The Changing World

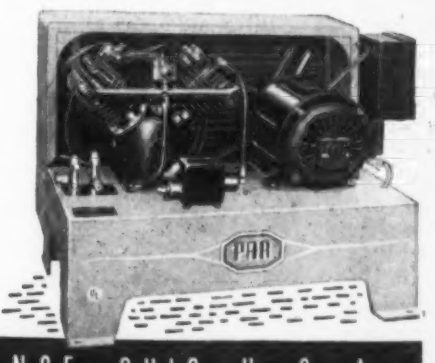
★ ★ ★ Housewives riveting . . . office workers running intricate machines . . . men from every walk of life studying mechanics in the services. Yes, this is a changing world.

★ ★ ★ These are the people who will make up tomorrow's market . . . a market keenly aware of mechanical perfection . . . a market with the ability to choose outstanding products.

★ ★ ★ PAR Condensing Units will appeal to this mechanically minded America of the future. For the experience gained in our war assignments will be added to our well-known ability and facilities in producing condensing units that are outstanding in their fields.

Manufacturers of PAR Commercial Refrigeration Equipment

PAR DIVISION



LYNCH MANUFACTURING CORPORATION • DEFIANCE, OHIO, U. S. A.

WANTED:

Experienced Air Conditioning and Refrigeration Engineer

Positions are available for metallurgist, test laboratory supervisor, development engineer and application and sales engineer. These are permanent positions with excellent postwar prospects.

Kindly submit all information in writing concerning education, experience and draft status. Persons now engaged in war work will be employed only after presentation of availability certificate. Carrier Corp., Syracuse, N. Y.

Consumers Want and Expect Radically Changed Products, Says Norman Bel Geddes

PHILADELPHIA—A "new design for thinking about your problem, and the postwar conditions that will be different," is a major need of the refrigeration industry, declared Norman Bel Geddes, noted industrial designer, in his paper "Tomorrow's Consumer," presented at the Refrigeration Industry Forum held in conjunction with the A.S.R.E. convention.

Bedded down by the "flu" bug, Mr. Bel Geddes was unable to deliver his talk in person, the paper being read by Ralph Kruck, director of design for the appliance division of Westinghouse Electric & Mfg. Co.

"We all know something of the revolution in all phases of living which has been taking place for the last 10 or 12 years," said the designer. "We have read about it and we know something about its economic and political effects. This revolution can be defined specifically, insofar as it affects all industry, as having obsoleted the customer and created the consumer.

"The saturation point, resulting from the overselling characteristic of the boom period climaxed by the 1929 fiasco, will come more rapidly after the war if the same technique is used.

"Until you take cognizance of and act upon the fact that you have a mass of people who want the best they can buy, you are in danger of making the same mistake again. The whole attitude in postwar manufacturing must be one of close questioning for the benefit of the consumer as a user of products. Where will that product or equipment be placed? How will he use it? All questions that concern the consumer's need are your most important tools.

"The question is, 'What kind of product does the consumer want?'—not 'What can I force him or her to buy?'

"The manufacturer must change his emphasis from the customer to the consumer. The consumer must tell you what he wants. You can't tell him, or you'll be working for the customer again.

"The customer or dealer of prewar days required selling points from the manufacturer that too often took the form of meaningless gadgetry. It gave the salesman a talking point. But the consumer finally woke up with nothing different or better than he had had before.

"Before this war, there was every indication that the mass of people had a deep-rooted craving for satisfaction from the appearance of things around them. Year by year, public judgment has improved, particularly in terms of products for everyday use.

"The war is completing a metamorphosis of the consumer into a shrewd buyer, one who knows what he wants. His knowledge is based on an understanding of what industry is equipped to give him.

PRODUCERS TURN DEAF EAR

"Yet the number of manufacturers who are considering the new consumer, or even consumer problems from the consumer point of view—are the exception. They are the exception who will set your postwar market by the ears unless you put the very best product possible on the market as soon as you can.

"You probably anticipate a postwar demand that will absorb every 1942 model you can turn out, without the additional expense of giving the better product you are already prepared to give.

"I think you can get away with it—now. But I don't think you will get away with it for long. The old psychology of producing for the customer as distinguished from the consumer, is not only antiquated but downright dangerous.

"When war savings are gone and pent-up demand is satisfied, we are all going to have to do a lot of digging under any circumstances. I am suggesting that you get a head start, now, by accepting the consumer as your boss in a field of service and production that faces an expanding horizon.

"It is true that the public is slow to accept change. Women in particular, because of the very isolated character of the home, were able to stave off change. Habit is an energy-saving device that the competitive business world forced men to break.

"Man was forced to be hospitable to invention. Woman was inhospitable to change—viewing washing machines, vacuum cleaners, and like labor-saving devices with suspicion.

"On the other hand, if we fail to recognize the woman consumer of today as different from this remote, isolated housewife, we are making the same mistake she made. She paid for her mistake in time waste. You'll pay for yours financially.

NEW CONSUMER A WOMAN

"The new consumer is a woman, to whom time-motion study is a service she believes manufacturers should add to all equipment made for her use. She's crossed the threshold of the home to work in factories and business offices. She no longer needs the excuse that "woman's work is never done" to justify her remaining in the home, because this war has brought her out of it. Labor and time saving is as important to her as it is to you.

"I hate to say it, but if there is anything less efficient than the refrigerator from the standpoint of time-motion, I'd be hard put to find it. Yet I wonder just how many of the necessary changes will be made in the first postwar model.

"You will sell the things like hot cakes to people with money to spend. But you won't sell them to that smaller but stable middle income buying consumer who will make the old do until the new models really come out.

"I know it will take a few months, after the go-ahead on peacetime production is given, for refrigerators to roll off assembly lines. The variables of economic conditions and consumer wants do not constitute a legitimate excuse for not retooling for new models in the refrigerating industry.

"This consumer, upon which I am placing the major emphasis, is an interesting entity. He or she has been inarticulate except in terms of sales results. This is an excellent yardstick if your product is a success, but not very comforting for failures.

"For 25 years I have been investigating consumer psychology in various fields and tracing reaction patterns. The most significant results of that work are now functioning successfully as a technique of interpreting consumer needs and wants considerably in advance of production.

"There just isn't a chance that a refrigerator embodying consumer needs and demands won't sell. Furthermore, some of the most desirable changes, from the consumer's standpoint, require very inexpensive retooling.

DESIGN IMPORTANT FACTOR IN COMPETITIVE MARKET

"The public never expects the impossible—contrary to the timid about-face of advertising. Surveys show that although the majority of people expect some change immediately after the war, and most of them will buy certain equipment within six months —80% expect a delay from 12 to 18 months for reconversion.

"The market potential inherent in high income, deferred demand, and accumulated purchasing power, doesn't need to be translated into terms of particular goods and services for you.

"Science is rapidly supplying the answers to improved and new equipment. Engineering is solving the mechanical problems. That leaves just one field—mine—design and consumer interpretation in terms of function, efficiency, and appearance. These are the factors that will determine buying in a competitive market.

"Let's go back to the refrigerator as a known quantity. You know how many the public is prepared to buy. Do you know that many users simply tolerate it in its present form? If you can find one single woman who doesn't have more than five objections to the present refrigerator of all makes, you are the wishful thinker.

"Price range has little to do with it. The woman who manages on a $2,000-a-year income has identical likes and dislikes for refrigerators with the one who has a $50,000-a-year income.

"We know that the refrigerator in the home of a family of four is opened from 40 to 50 times a day. You can multiply the objections I am about to state by that number.

"You can bet your bottom dollar that the first manufacturer who heeds the collective voice of the harried housewife, who finds the butter too hard when she is ready to use it because the only logical place to keep it is on one of those small shelves beside the freezing unit—is going to make a killing.

FAULTS OF REFRIGERATORS

"At the same time, he will hear the muttered imprecations—which is just a ladylike way of swearing—anyhow, the muttered imprecations of the housewife who has to take today's milk, tomorrow's beer, and yesterday's cream out before she can get day-before-yesterday's milk. And, as all that goes up must come down, so all that comes out must go back in. That tall, long, narrow shelf to the left of the freezing unit is the wicked gremlin of the refrigerator.

"Then there is that happy morn in the life of the housewife when she opens her refrigerator door—not on the beautiful array of fruits, vegetables, and meats with which every refrigerator advertisement makes your mouth water and your mind wander towards the savings account—but on leftovers, scraps, and worse still, a distinctly unpleasant odor.

"You would sigh, too, and swear to boot, if you found as she does, that the boiled ham she counted on for snacks, had gotten lost and spoiled in the back of the box behind a mountain of leftovers.

"I don't know quite what you would do if, having taken a half-hour or so to clean the whole shelf out and discard the dollar's worth of offending ham, you found out—there was still an odor. It is different, to be sure, but no less offensive.

"If you are wondering what this second odor was, it was milk—the involuntary and unnoticeable weeping of a milk container that had been banged around by the delivery boy. It wept quietly at the back of that long, narrow shelf, down into the runners of the wire tray below. It wept right down back of the vegetable drawers and there it hardened. The little bacteria played around, manufacturing a smell that you would prefer striking off the list of your personal acquaintances. Now there is nothing for it but to take the whole refrigerator apart, and that is a job of a good hour and a half that could be wholly avoided by the proper design.

"What do you suppose approximately 80% of the people who think that ice cubes are there to keep the refrigerator cold, think about the customary prominent position of the freezing unit? These are only a few problems. There are many others.

STORAGE FREEZING FACILITIES A NECESSITY

"In general, the attitude toward production of any equipment for use must proceed along the same lines. Storage freezing units will probably provide a large market in the near future. I can tell you that Mrs. Average American wants it and needs it.

"Frozen foods are already in the classification of staples. As refrigerator transport takes to the air, which it will, the need for home storage will increase. You have probably solved

(Concluded on Page 19, Column 1)

Progressing satisfactorily through the various stages necessary for the transition of an idea to a finished product, the details of the new Amcoil Food Conditioner are about ready to be released.

Designed primarily for use in Walk-In and Reach-In Boxes, this unit combines low temperature control with the correct amount of humidification necessary to store foods properly. It will be available as a packaged refrigeration system ready for installation with a minimum of labor.

The Amcoil Food Conditioner will prove invaluable in wartime for use on naval and merchant ships, transport planes, army commissary departments, etc. After the war it will prove indispensable in hotels, packing houses, storage plants, and many other industrial applications.

Pre-war and wartime experience in refrigeration, air-conditioning and high and low temperature testing equipment has provided Amcoil engineers with a vast reservoir of technical know-how that is not only incorporated in our products, but is also available for consultation.

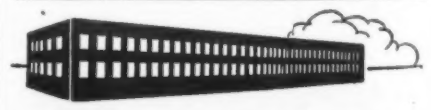
AMCOIL
AMERICAN COILS CO.
25-27 LEXINGTON STREET • NEWARK, N. J.

Equally essential to health and energy!

OASIS Electric Water Coolers

Cool, refreshing, sanitary drinking water is as important to energy and morale as other widely recognized health factors. And EBCO's famous "OASIS" Electric Water Coolers provide this vital element *at its best—24 hours a day—at low cost!* OASIS Coolers are the product of more than 20 years of progressive leadership in Electric Water Cooler design and construction, by pioneers in the field. They are produced in one of the most modern and fully-equipped production line plants of its kind, assuring top-quality construction in every detail.

EBCO MANUFACTURING COMPANY
401 W. Town St., Columbus 8, Ohio

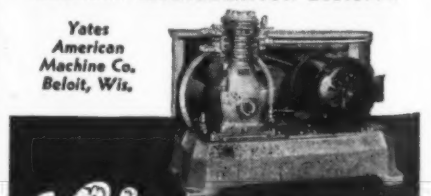


WAR INDUSTRIES NEED REFRIGERATION

The use of refrigeration in industry has been greatly accelerated by the war. In peacetime this expansion may logically be expected to continue. Write for literature.

GENERAL REFRIGERATION DIVISION

Yates American Machine Co. Beloit, Wis.



Kipman
AUTOMATIC REFRIGERATION

Postwar Consumer Visualized as Smarter, Asking 'Dream' Products Be Made Real

(Concluded from Page 18, Column 5)

that problem mechanically. Design has organized it for the greatest efficiency for the apartment and medium-sized house that will be typical of the postwar world.

"Rural and semi-rural homes will use deep freezing units and lockers to the same degree that they are now using other equipment. Commercial locker plants are spreading out all over the country. A nation that has been to war is developing new food tastes in which out-of-season foods are going to be a daily demand.

AIR CONDITIONING NOT SATISFACTORY IN PRESENT FORM

"There is one characteristic of the new consumer that I have not even vaguely touched upon. But it will be one of the most important factors in air conditioning.

"The age of the average consumer is changing. He will soon be older than ever before in the history of the nation. The older consumer provides the luxury market. He puts comfort first.

"Because of the general mobile trend indicated for postwar living, portable air conditioning units should find a market somewhat equivalent to that of the more expensive radio. The potential consumer agrees that air conditioning for both home and commercial use is not satisfactory in its present form.

"Its temperature adjustments are uncomfortable for the average person, and there is some medical evidence that the change from air conditioned restaurants and theaters to street temperatures is not beneficial. Maybe you have solved that problem, and if you have a large part of the 1,400,000 homeowners who intend to make improvements, and the 1,000,000 new homes a year that will be built, provides a promising potential market.

"I have confined my remarks on design to function because appearance evolves out of efficient working. I am sure the time has come to make substantial changes. And, like form following function, the sooner you change your concept of the consumer, the better those changes will be.

"The motion picture industry is a case in point. Up to about 10 years ago, they thought they had to direct all pictures to 14-year-old minds. That was their concept of the average audience. Since they have scrapped that theory and treated the public as an intelligent entity, pictures have steadily improved—and so has the revenue from them.

"The destruction and obsolescence of equipment and traditional ideas prompted by the war, is a Godsend to us all. It offers the opportunity to start over, with the knowledge and experience of the past and the confidence that we can do for peace what we did for war. We should no longer be handicapped by dated ideas and methods.

"The people will speak up about the details of everyday living just as they do about other things. They will not take excuses from an industrial system that has proved it can perform miracles for war and destruction. They will expect those miracles for peace. Vast changes are upon us. These changes will be the dictate of the consumer. He is your boss—and mine."

Ashbaugh Reasons 'No Radical Change'

The day when the housewife "will cook a meal on the dining room table by the simple expedient of pushing a few buttons" may someday become a reality, but the general public had better stop expecting it the day that the war ends, declared J. H. Ashbaugh, manager, merchandising division, Westinghouse Electric & Mfg. Co., in his commentary on the talk by Norman Bel Geddes.

Industry readily realizes the impossibility of offering any radically new products immediately upon cessation of hostilities, said Mr. Ashbaugh, but many people still believe it will be done, he said.

"It is almost a certainty that we will see gradual changes in products in the postwar period," said Mr. Ashbaugh. "Those who have the responsibility for 'engineering' the job know how much time it takes.

"New designs must be drawn, exacting engineering tests must be run, new tools must be designed and acquired, and then actual production run tests made before a product can be placed upon the market."

According to Mr. Ashbaugh, there will probably be three phases of conversion back to peacetime activities:

(1) The start of reconversion before the war's end, which will be controlled by the government through the control of materials.

(2) Following the defeat of our enemies, another period of more conversion, but still under some controls.

(3) The final "handing back" of production to the producers.

Wholesalers Asked To Go Easy on PD-1X

WASHINGTON, D. C.—Wholesalers and retailers, who use Form WPB-547 (PD-1X) to apply for priority assistance in obtaining scarce goods, are cautioned not to order supplies of this form for more than immediate needs, the War Production Board has announced.

A simplified version of PD-1X is under consideration, and is being submitted by the Wholesale and Retail Division of WPB to appropriate Industry Advisory Committees.

The new form, if adopted, will require less time to fill out and less time to process at the War Production Board. Any changes will be made public well in advance of the effective date, probably in January.

Warner Chief G-E Plastic Engineer

PITTSFIELD, Mass. — Frank W. Warner has been named successor to Henry M. Richardson as chief engineer of the Plastics Divisions of the General Electric Co., William H. Milton, Jr., manager of the divisions, announced today.

Mr. Warner has been a Plastics Division employe since June, 1931, shortly after the formation of the division, and has been in charge of engineering development of all divisions since spring, this year.

He graduated from the test course at Schenectady in 1930 and from the advanced course in engineering in 1932. After an assignment in the Schenectady research laboratory he came to Pittsfield in the fall of 1934 as product engineer.

In the spring of 1936 he was transferred to the Meriden, Conn. works as acting superintendent and in the fall he returned to Pittsfield as division engineer. He held that post until his promotion to the office of project engineer in charge of the engineering development laboratory.

Last year as chairman of the advisory technical committee of the Society of the Plastics Industry Mr. Warner organized and supervised the activities of the various technical committees working with service branches in the uses of plastics for military applications.

He holds membership in the American Society of Naval engineers, the American Society for Testing Materials and is vice-chairman of the advisory technical committee of the Society for the Plastics Industry.

4 Miles of Coils Test Canadian Army Vehicles

OSHAWA, Ont.—Only one of its kind in Canada, a "cold room" has been in operation since October at the Oshawa plant of General Motors for testing Canadian Army vehicles under below-zero temperatures.

Four miles of refrigerator coils run back and forth across the ceiling of the cold room, in which it is possible to send the temperature down to 40° below zero and also to simulate a 25-mile-an-hour wind.

In a control room there is a large instrument board which incorporates a device making it possible for the operator to read the temperature at as many as 36 different spots on the vehicle being tested. The control operator is able to see into the testing chamber through a window which is five panes of glass thick in order to prevent it frosting.

Also next to the cold room is another room which houses the machines regulating the temperature. There are two compressors, 60 and 50-hp., respectively. And a 40-hp. electric motor drives large fans which create the 25-mile-an-hour wind.

In order to maintain the frigid temperature, the walls and floors are insulated with 16 inches of cork. And the heavy steel-insulated doors are a foot thick. Men who work in the cold room dress, of course, in outfits which would be suitable for a Polar expedition. They wear coats and flying suits lined with sheep's wool, with additional protection provided by parkas, goloshes, and gloves.

AIR CONDITIONING in the homes and buildings of the future will be as common as refrigeration is today. NIBCO is proud to have had a part in the development of better air conditioning equipment in the past... and NIBCO WROT and Cast Fittings and parts will play a big role in the post-war expansion. Whenever you need fabricated tubular products or non-ferrous castings, valves, or fittings, specify NIBCO for lowest production cost. Precision makes assembly easy. We'll be glad to help you now in post-war planning.

NORTHERN INDIANA BRASS CO.
ELKHART, INDIANA
VALVES AND FITTINGS SINCE 1904

TEMPERATURE CONTROL GOES INTO BATTLE

IN *PLANES!*

Planes have temperature control problems, too. This is but one of the ways our armed forces are using Hydraulic-Action, the positive and effective principle of White-Rodgers Controls.

White-Rodgers temperature and pressure controls are available today on priorities of AA-5 or better. Maintenance of existing refrigeration equipment or installation of new equipment essential to the war effort now is possible with these accurate and trouble-free controls.

HYDRAULIC ACTION CONTROL — MEMBER I.C.I. INDOOR CLIMATE INSTITUTE — SYMBOL OF GREATER INDOOR COMFORT

WHITE-RODGERS ELECTRIC COMPANY
1211L CASS AVENUE ST. LOUIS, MO.
Controls for Heating • Refrigeration • Air Conditioning

What Are the Postwar Prospects For Commercial Refrigeration?

Reasons Are Advanced For Predictions of Big Markets For Home Freezers & Comfort Cooling

EDITOR'S NOTE: This is the second instalment of Mr. Terhune's talk as presented before the St. Louis chapter of the American Society of Refrigerating Engineers, which is being heralded as probably the most thorough discourse to make its appearance on the subject of postwar prospects for commercial refrigeration.

By E. A. Terhune, Sales Manager, Electric Refrigeration & Air Conditioning Division, Servel, Inc.

There are two products of greatest importance which will appear and each of them undoubtedly offer a volume far in excess of the maximum total pre-war volume obtained in the industry. I refer to the applications in air conditioning for room coolers, store coolers, automobiles, trailers, and central systems for both comfort cooling and industrial use.

The other one appears to be home and farm freezers and frozen food storage cabinets for use in stores and in institutions. I am going to touch more in detail on these markets at a later point in this presentation.

We will be facing many new problems in the commercial refrigeration industry and these will include such matters as retail and wholesale financing, warehousing, revised service setups, the possibility of variations in warranty all the way from 90 days to five years, elimination of consignment practices in the industry and a desire even to stabilize terms and discounts for the legitimate protection of profits to all.

Both wholesale and retail selling must revert immediately in the postwar era to the basic specialty selling procedure of again canvassing the entire market. The only "prospect" list worth the paper to write it on will be a "users" list. Pre-war prospective lists will be as out of date as the Republican party in 1932.

An example of what may be expected all along the line is recently cited by "The Iron Age" in the industrial field.

"Consider for a moment what has happened to your prospect lists. It can be conservatively figured that for every 1,000 new men going into our rapidly growing manufacturing industries, there will be 10 changes in executive positions. The factory manager will need a couple more assistants; the production engineers are moved upstairs; foremen become department superintendents, and the purchasing agent, hired away by a competitor, is replaced by another. So it goes, some moving up, some moving in, and some moving out.

"With 10 million new workers coming into manufacturing industries, this means 100,000 changes in executive positions, 100,000 new acquaintances and friends to make! That is equivalent to ringing all of the doorbells in South Bend, Ind., or Utica, N. Y., and it's a job that has to be done some way or another by the industrial merchandiser who wants to do postwar business . . ."

TERHUNE'S 14 PREDICTIONS

In the radio broadcast by that well-known commentator, Drew Pearson, has been incorporated a feature entitled "Prediction of Things to Come." At the possible expense of getting my neck beyond the retractable limit, I am going to venture some 14 predictions relative to commercial refrigeration in the postwar era. It reminds me of the story of the well inebriated gentleman on a double-decker bus on Fifth Avenue in New York. He persisted in bothering the driver with non-sensical conversation. Finally the driver suggested he go upon the top deck and get his money's worth of the view. The drunk followed the suggestion but in a few minutes came back down again, where-upon the driver asked him the reason. Replied the inebriated one, "Too dangerous up there . . . no driver."

1. **I predict** that despite suppositions of many relative to postwar distribution, the channels of merchandising commercial refrigeration will be fundamentally the same as in the pre-war years—through Allied Fixture Manufacturers, Jobbers, Distributors, Dealers and Service men.

2. **I predict** that one of the new big factors in merchandising commercial refrigeration equipment will be that man who has to-date been a "sleeping giant" in the commercial sales field—the refrigeration service man.

3. **I predict** the formation of an organization of distributors and dealers throughout the country in a manner parallel to that of RSES.

4. **I predict** an era of package merchandising in commercial refrigeration to an extent not even approached in pre-war years.

SEES NEW TYPE DISTRIBUTOR

5. **I predict** a new type of distributor entering the merchandising field in commercial refrigeration and selling certain "package-type" equipment on a merchandising basis rather than a specialty selling basis; such new outlets to consist of specialty chain-store organizations as already set up by the tire companies and automotive and department stores.

6. **I predict** straight-line volume production of room coolers and store coolers that will cut their previous cost almost in half and provide better, smaller and lighter equipment.

7. **I predict** a new era in the modernization of stores and in new technique in the sale of refrigerated fixture equipment to include complete renovations involving store fronts, complete harmonized new interiors and refrigeration equipment, and air conditioning; and a sales emphasis on ensemble design rather than technical equipment. The store fixture salesman of tomorrow is going to sell "package" air conditioning.

8. **I predict** a market of from 100,000 to 200,000 refrigerated vending machines per year, to be reached within the five to 10 years of postwar operation. In this regard bear in mind that it is estimated there are one million soft drink outlets in the country. It is further estimated that 10% of these will involve vending machines, to say nothing of the untouched market in factories and many public places. Furthermore this refrigerated vending machine market will expand into the dispensing of not only soft drinks but of milk, fruit juices, ice cream, certain types of frozen foods and other unexplored products.

9. **I predict** a new era in "selling standards" in the postwar period—an end to the exploitation of salesmen in specialty selling industries both for reasons of imposed regulations as well as of good economic judgment. New standards and new technique will be evolved by sales management and new training, remuneration and operating standards will be established.

10. **I predict** a nation-wide adoption of the practice—already a prewar actuality with some meat packers on a limited scale—of the complete processing, quick freezing and packaging of meats at the packing plant. As a result of this procedure, the packer will retain and salvage for by-products, the bone, gristle and fat. As a further result, I predict the postwar pattern of meat distribution will be radically altered to fit the new methods that will give greater economy, convenience and customer satisfaction.

HOME FREEZER BIGGEST MARKET?

11. **I predict** that home freezers will emerge by far the biggest selling fixture product in the commercial refrigeration field. The consensus of opinion of those in the industry with whom I have talked indicates a volume of home and farm freezers and locker plants and storage cabinets for stores and institutional use that may run anywhere from one-third of a million to a million units per year, depending upon certain factors that are not yet fully clarified. I fully realize that such a statement as this will appear radical or fantastic to the average listener. A brief further analysis of this market may prove interesting to you.

First, let us differentiate between the four products involved.

The locker plant will be a secondary part of this entire market as regards volume. As most of you realize, it is a central plant containing individual small lockers that are rented to the public for the storage of certain frozen foods (such as meats) that are often processed by the locker plant organization, all the way from butchering to aging and cutting up, packaging and quick-freezing the product.

I mention locker plants (which are today serving perhaps seven million people) because they are a part of the general family of low temperature equipment, even though the total national potential may be only 10 to 20 thousands central installations.

Farm freezers will be made in considerable quantities and merchandised principally by such people as Sears Roebuck & Co., Montgomery Ward & Co., and others who have built up a close approach to the farm market.

Many thousands of frozen food storage cabinets will be built for sale to retail stores and institutions but the total of this segment of the low temperature market will, in itself, be only a fraction of the possible potential volume in this field.

The real challenger in the postwar era will very likely be the home freezer. Just bear in mind that food is the biggest industry in the world and any equipment or device which cuts the cost of food or its distribution or gives greater value for less money is resting on a foundation that must be recognized.

Proof has already been offered that home freezers save appreciably in food cost under certain conditions and almost uniformly permit better food selections (in and out of season) greater convenience and a pride of ownership which is an important factor in obtaining public approval of any product.

WHY THE HOME FREEZER

The home freezer carries most of the fundamental sales arguments used in the merchandising of other specialty equipment for the home and in addition carries the incentive of actual money saving—even to the extent that it may be shown that it will pay for itself during a 24 months period which might be considered the duration of the installment sales contract.

That the public has already been impressed with the desirability of frozen food storage for the home, cannot be denied. Danner Bierhaus of Harder Manufacturing Co. has told me that his recent advertising has brought around 150 inquiries per day for the last two months and that he has never seen anything like the interest being manifested in this type of equipment.

The emergency of food rationing and shortages during the war are presented by some as an indication that home freezers will not be a dominant factor in the postwar period; but to assume this is to ignore all of the fundamental advantages of this type of equipment which will not cease to exist when the war ends.

The Deepfreeze people in Chicago are recognized as currently being an outstanding pioneer and leader in this field. The above quotation regarding advertising and inquiries

(Continued on Page 21, Column 1)

Food spoilage

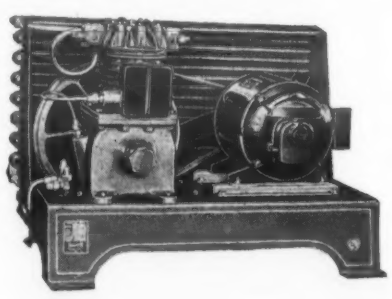
Spoilage of American food is right up der Fuehrer's alley!

With America not only the *Arsenal* of Democracy but the *Larder* as well, food today means as much to the Allied Nations' cause as bullets and bombs. Without food, soldiers cannot fight and win. Without it, war workers can't do their jobs right. And civilians must have proper food to keep the national health standards high.

There's only ONE way to combat food spoilage...*proper refrigeration!*

Synonymous with "proper refrigeration" is the name of "Brunner." For many years the Refrigeration Industry has come to regard Brunner condensing units and refrigeration equipment as thoroughly dependable in every respect. Today that enviable reputation is undergoing the test of its life... and coming through with flying colors!

Before the war, Brunner was tops. During this war Brunner still leads. And when the war is over, and for many years after that, you can pin your faith on Brunner... and never be let down!



ARMY E NAVY

BRUNNER

COMMERCIAL REFRIGERATION

BRUNNER MANUFACTURING CO., UTICA, N. Y., U. S. A.

Your skill is needed TO PROTECT THIS FOOD

FROM the farms and ranges come some of our most critical war materials — meat and dairy products which require refrigeration to keep them wholesome and prevent spoilage loss.

Your skill and experience in refrigeration service is urgently needed to protect this food. Service men are meeting this emergency — working long hours and showing great skill and ingenuity to keep existing equipment operating at top efficiency.

Here at Penn we have a deep appreciation of the fine job you are doing. We offer our whole-hearted co-operation, in the repair of existing controls when that is possible, and in supplying new controls when they are needed. Ask your jobber—or write direct to the *Penn Electric Switch Co., Goshen, Ind.* In Canada: Powerlite Devices, Ltd., Toronto, Ontario.

ARMY E NAVY
A Star ... for continued Excellence in Production

PENN

AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, ENGINES, PUMPS AND AIR COMPRESSORS

Terhune Sees Frozen Food Storage as Largest Market For 'Package' Units

(Continued from Page 20, Column 5)

confirms many of the experiences that Mr. Morrison, president of Deepfreeze, has had and has outlined to me.

His organization has gone back to the meat packer in making available to the users of his equipment throughout a wide area in North Chicago, a supply of frozen foods at economical prices and a delivery system that put the Deepfreeze Co. directly into the frozen food distributing business. He went so far as to take over a complete restaurant organization and proceeded to quick-freeze many kinds of cooked foods which he in turn distributed in his own trucks.

This made it possible for Deepfreeze users to pick a complete cooked meal out of the Deepfreeze barrel. No maids were necessary to prepare these meals as it was only a question of "warm up and serve." An expansion of this type of operation may easily result in a big refrigeration distributor of household frozen food cabinets becoming a big factor in the food distribution business.

FACTORS IN FREEZER FIELD

It is not my intention to talk in telephone figures or ideas that are fantastic. We would, however, only be hiding our head in the sand not to further investigate and appreciate the possible potential of this new comer in the commercial refrigeration industry. If there continues to be an insistance among domestic refrigerator manufacturers for still larger and larger freezing compartments, then it won't be long before the tail will be wagging the dog because eventually the home freezer compartment would be larger than the 40 degree food storage compartment if it were to hold an adequate supply of frozen foods which many families have already come into the habit of using and thousands more will imitate in the postwar period. And when that point is reached, you have a frozen food cabinet—not a domestic refrigerator as we know it today!

It seems to be the consensus of opinion that the domestic market will require from a five to 20 cubic foot frozen food cabinet.

Consider for a moment what effect a wide-spread use of home freezers might have on our entire distribution system involving meat markets and the restaurants. When the meat packer sends out his product in frozen package form he has eliminated much of the middle-man handling, much of the labor cost in processing by using volume production methods and such a procedure may threaten to put out of business the meat market as we know it today.

As I have mentioned before, it is already an accepted fact that frozen ready cooked meals have been produced economically and have eliminated many of the factors involving domestic help and the unavailability of convenient local supplies, which heretofore have been dominant reasons for home folks to "eat out" at their local restaurant. Can you not imagine that the use of home freezers for the storage of ready cooked frozen meals will have some effect upon the restaurant business?

Fifteen years ago we went through the period when domestic refrigerators were sold to apartment houses to fill up vacancies. It wasn't long before other apartments were forced to install mechanical refrigerators to keep the tenants they already had.

APARTMENT HOUSE MARKET

Can you ignore the possibility of an apartment house installing a locker storage plant in the basement and renting out the lockers to the apartment house tenants so the plant itself would be self liquidating? Here would be a double-barreled appeal because the apartment house owner could be shown how facilities for frozen food storage would keep his apartment house filled up and at the same time recover his investment.

The locker plant system would be self liquidating in a short time. With such an apartment house locker system in the basement you need hardly use your imagination to anticipate its possible effect in that field.

I have talked with some men of experience who prophesy a postwar market of as many as 1,000,000 to 2,000,000 frozen food cabinets per year. Such a market is of course quite possible if certain models of domestic refrigerators are re-designed for a predominance of freezer space and thus virtually become "home freezer cabinets." If some of these prophecies do come true, we may then expect to see a radical change in distribution methods and problems because they will involve a cross section of both domestic and commercial refrigeration.

12. Now to get on to another prediction. I predict a possible total potential in the commercial refrigeration business from a pre-war maximum volume of 450,000 condensing units in 1941 to a postwar market—within five to 10 years after postwar production gets going — of from one to 2½ million units. I have definitely qualified this particular prediction as a tangible possibility even though I realize, as I know you do, that certain postwar factors might easily cut this maximum potential in half.

In arriving at such a potential I have included imaginary products that have not yet been developed in the commercial refrigeration industry but have included a normal increase for standard commercial fixture equipment and the same for ice cream cabinet, beverage coolers, water coolers, and the like.

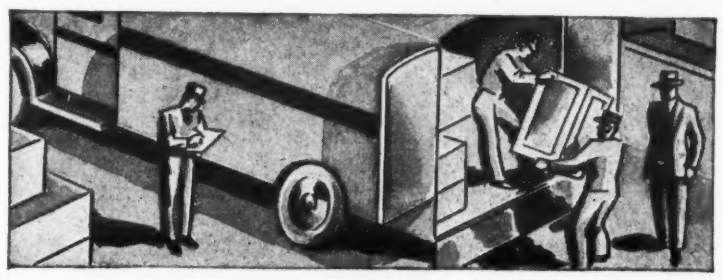
(Continued on Page 22, Column 1)

"WHAT THEY SAY"
About the 5 to 10 Year Postwar Potentials in Commercial Refrigeration and Air Conditioning
(⅕ Hp.—10 Hp. Incl.)

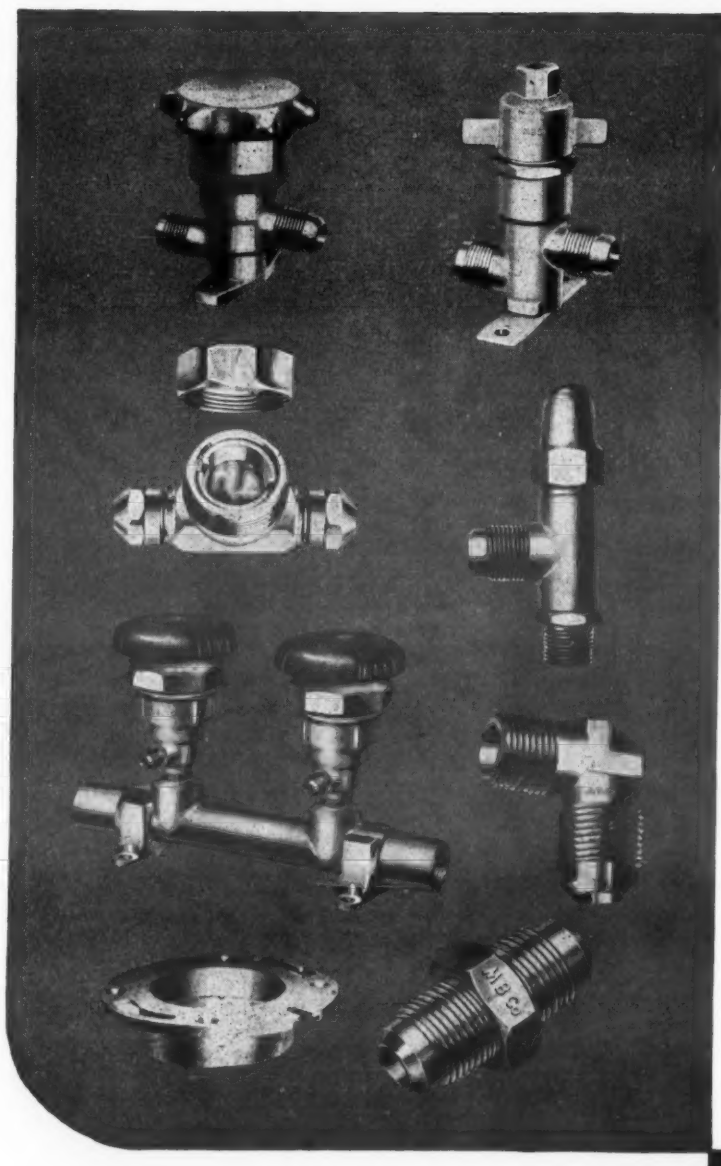
Application	Condensing Units Per Year: Normal Expectancy	Condensing Units Per Year: Maximum (or Possible) Expectancy
1. Standard Pre-War Products	550,000	700,000
2. Mobile Air Conditioning (Trucks, Trailers, Automobiles, etc.)	200,000	400,000
3. Refrigerated Vending Machines	100,000	200,000
4. Room and Store Coolers	100,000	300,000
5. Frozen Food Storage and Freezer Cabinets (For Homes, Farms, Stores & Institutions)	300,000	1,000,000
Totals	1,250,000	2,600,000

Comparative Postwar Maximum Potentials—Per Annum

	Domestic Refrigerators	Commercial Ref. (Including Fixtures)
Average Manufacturer Sale Price—Per Unit	$75.00	$200.00
Estimated *Maximum* Yearly Potential—No. of Units	4,000,000	2,500,000
Total Potential Industry Dollar Volume	$300,000,000	$500,000,000



A REPUTATION FOR SUSTAINED DELIVERY



Although war time production and restrictions have necessarily made it very difficult to produce and ship goods to our customers at a rate approximating our peace time rate, we have managed to supply our customers with their essential requirements in reasonable time.

This condition does not prevail through mere chance. When the war broke out we made an extensive study of how we could best serve our customers within existing regulations. This, together with the fact that we are not dependent upon outside sources, but manufacture and control all the parts and operations of our products from the virgin metal to the finished goods, is largely responsible for our favorable position today. WE HAVE A REPUTATION FOR SUSTAINED DELIVERY.

Mueller Brass Co. refrigeration products are in use with our armed forces on practically every front. They are incorporated in units produced by other manufacturers who depend upon us for prompt service and quality products.

Service engineers can place full confidence in Mueller Brass Co. Valves and Fittings. Rigid laboratory control, skilled engineering, highest quality materials, precision workmanship and rigid inspection combine to make our products constantly dependable.

VALVES • FITTINGS • ACCESSORIES FOR REFRIGERATION AND AIR CONDITIONING

MUELLER BRASS CO.
PORT HURON, MICH.

SERVICE SIMPLIFIED
GREATER SATISFACTION
LONGER OPERATIVE LIFE

— a sure thing when
AMINCO
OIL SEPARATORS

protect Coils, Condensers, Compressors, Valves and Dehydrators by picking oil out of the refrigerant stream and AUTOMATICALLY returning this oil to its proper place, the crankcase.

Now that replacements are hard, almost impossible to get, those charged with the responsibility of maintaining existing equipment are looking for longer operative life and reduced operating costs.

Aminco Oil Separators protect compressors by maintaining correct oil level in crankcase and by excluding oil from refrigerant stream they enable coils, condensers, valves and dehydrators to function most efficiently.

These oil separators are made for jobs from ½ H.P. to 120 tons and are used everywhere, ashore or afloat, where efficient refrigeration is desired.

Full descriptive bulletins on request.

No. 1791-1794
Up to 120 tons capacity

AMERICAN INJECTOR CO.

Pacific Coast—Van D. Clothier, 1015 E. 16th, Los Angeles
Export: Borg-Warner International Corp.,
310 S. Michigan Ave., Chicago, Ill.

300% Dollar Volume Increase For Commercial Predicted

(Concluded from Page 21, Column 5)

I have included only those postwar products which have already been placed on the market in some manner, such as automotive air conditioning, vending machines and home freezers. Take for example such a comparatively small item as a water cooler. It seems quite evident that in the postwar era a unit of smaller size and capacity will be produced in volume at a fraction of the cost of present office coolers and that whereas the market may have been 60,000 to 75,000 or more water coolers a year, the production of such a smaller and far less costly unit might of itself practically double the volume.

WHAT THEY SAY

This chart is entitled "What They Say" about the five to 10 year postwar potentials in commercial refrigeration. It represents the consensus of opinion amongst many in the industry with whom I have talked and not simply my own prediction or "guestimating."

For the sake of simplicity, I have outlined the potentials in terms of condensing units per year. The "normal expectancy" is, as near as I can determine from various sources of information, the normal postwar volume that may be expected without excessive optimism or unusual public acceptance regarding any one product.

The "possible expectancy" indicates the volume which is expected by many who have studied the subject, provided there is a wide-spread public acceptance of the various products which they feel postwar conditions may engender.

Even these "possible expectancy" figures do not give the maximum figures which some of the optimists have offered and which in the case of home freezers have gone as high as two million units per year—which means that domestic refrigeration manufacturers would then become big factors in this type of business.

A "normal expectancy" of one and a quarter million commercial units per year is certainly a pattern for postwar action. Let us compare the "possible expectancy" of two and one-half million commercial units a year with the domestic refrigeration industry with which most of us are so well acquainted.

COMMON DENOMINATOR

For a common denominator I will use the manufacturers' wholesale selling price to the trade and to make the comparison complete, will include the complete refrigerated fixture equipment and not simply the condensing unit alone, which is but a small part of the entire fixture assembly.

At an average manufacturer selling price of $75.00 per domestic refrigerator to the trade and considering a maximum potential of four million domestic boxes per year, we arrive at a total industry wholesale volume of slightly less than one-third of a billion dollars per annum.

Similarly, taking the average manufacturers' wholesale selling price of commercial refrigeration equipment (including condensing unit and fixture) at $200 per unit and the possible expectancy of 2½ million units per year, we would have a wholesale sales potential of one-half billion dollars in the commercial refrigeration industry or 67% more than the present maximum potential in domestic refrigeration.

A CONSERVATIVE ESTIMATE

If these figures look like telephone numbers to you and if you want to shut your eyes to such an unusual expansion of the commercial refrigeration industry, (which is at least a possibility in the postwar era), cut out about one-fifth of the normal anticipated increase in the bread and butter sales, cut off 50% of the automobile air conditioning usage (leaving only about 5% of all automobiles which would permit air conditioning for only the deluxe and expensive models, cut off 50% of the maximum expectancy of vending machines, cut off two-thirds or the volume of room and store coolers, cut the home freezers by 70% (knowing as I do of potential orders now pending for about 100,000 of them) and in the end you still have a minimum postwar annual volume of one and a quarter million units, which represents an expansion of about 300% of the 1941 pre-war peak and dollar volume of about a quarter of a billion dollars.

I remember very well back in 1927 when I was a retail sales manager in a combined domestic and commercial refrigeration operation how some of the commercial salesmen would come to me with the complaint that the field was virtually saturated. Those were the days when a ½-hp. unit was the largest size unit in the business.

FAR FROM SATURATION

Discard and discount all you will of the potential figures which people have been talking about and which I have simply passed on to you in this chart and you must still recognize the fact (if you want to be fair with yourself and the industry) that commercial refrigeration is very far from any saturation point that we have ever known and that it offers opportunities and possibilities that may not yet have been matched by our imagination.

13. I predict that in the postwar period it won't be possible for the condensing unit manufacturer to exist as a prime producer of commercial refrigeration machines if he maintains only the small volume of 10 to 20 thousand units as was the case with some in the period prior to Pearl Harbor. With a postwar volume of more than one million units per year, I prophesy the business will settle down to only eight or 10 manufacturers who have the ability and facilities to turn out volume at low cost and that the least of them will be producing 75,000 or more units per year.

MAY EQUAL HOUSEHOLD

If, by stretching the imagination, we consider that postwar potentials may go as high as 2½ million commercial condensing units per year it is more than likely that a few of the top-leading manufacturers may reach a yearly volume of about one-quarter of a million units per annum and this is not far from being a comparable figure to the pre-war unit volume of some of the better known household refrigerator manufacturers.

I was recently handed a quotation which seems to me might well be one of the guideposts for management in our industry:

"In the competitive race to come, it is doubly certain that the strong, the far-sighted, the well prepared, will live and prosper. The weak, the lazy, the inefficient, the ill-prepared will fall by the wayside. The successful executive of the future must be aggressive, cost conscious, and sales minded."

14. And lastly let me make one more observation: I would like to quote that well-known sales specialist, Elmer Wheeler—"It's the sizzle that sells the steak—not the cow," and in the postwar operation of our branch of the industry it is going to be the "sizzle" that sells the equipment.

TERRIFIC COMPETITION

The competition is going to be terrific. Just because there's a huge potential won't give any one manufacturer a birthright to a place in this postwar sun. In this future field of plenty, there'll be more than one manufacturer of commercial refrigeration products who will "miss the boat"—and a few other new ones will take new places of leadership. We are going to be faced with competitors who can also build good equipment.

It will no longer be like it was 10 or 20 years ago when the question was "which unit can I buy and not get stuck?" There won't be any leading producer who will turn out such unsatisfactory merchandise. In B.t.u.'s, in economical running and in general overall performance and in customer satisfaction, there won't be marked differences between several of the leading makes. We'd better recognize that fact now—because it has already been evidenced in the past five years.

REQUIRED FOR SUCCESS

The successful organization will have these basic necessities:

—An experienced and financially sound organization back of the product.

—Refrigeration equipment that is engineered for and produced by the most modern machinery and cost-saving methods.

—Equipment that is reasonably service free and backed by sound institutional policies.

But all of this won't be enough—others will have and make equivalent claims to their heritage of this big postwar market. If you expect to be really successful in the postwar days you must in addition have an aggressive, fast-moving sales organization.

In many cases it will be not only the problem of selling against even odds, but selling with 2-1 odds against you in places where the competitor is already entrenched. Some of your merchandising problems are going to be comparable to the United National making an amphibious invasion of Hitler's European fortress.

The beachhead of the sale—when competition has been entrenched for years—is no pushover. And once on the ground, you have to be much stronger than the opposing force—not just as equal—to take the ground away from him.

WILL NEED 'SALES SIZZLE'

And it is going to take something more than a big market and a big company and a good product at a low price to do that. It is going to take "sales sizzle." In the postwar era in the electric commercial refrigeration field, it will be the "sizzle" that sells the equipment—not the cast iron!"

The "sizzle" will consist of a sales organization that never knows when it's licked, that has the confidence of complete success at the start and the guts to do whatever it takes to do the job; that has the experience and ability to take the ball down the entire length of the field for a touchdown. It is that kind of an organization which is self-starting and a natural leader in the industry.

Don't forget that it is leadership that spells success in many a fight. Gen. Patton once said that it is a tough job to take hold of a piece of cooked spaghetti at one end and try to push it in a straight line—but take hold of that end and pull it and the rest follows easily.

NEED MODERN SALES POLICIES

The "sizzle" that sells the equipment will also consist of sales policies that are as modern as tomorrow, as sound as the foundation of the business itself and as aggressive as a house fly buzzing around your sleeping nose. Just as a Flying Fortress softens up for the invasion, so will your postwar "sizzle" include a continuance of sales promotion on a higher standard and tempo than ever before.

The commercial refrigeration industry should concentrate its sales strategy on the selling of an idea and a service. That means making competiton—not meeting it.

Commercial refrigeration is protecting the life of the nation from the preservation of the milk in the baby's bottle, through all the myriad of civilian uses, to the point of critical injury where commercial refrigeration has already made available dried blood plazma which requires the simple instructions "add sterile water and serve," to save the lives of thousands and prolong those of millions of others.

Our branch of the industry has the right makings for a tremendous expansion in the postwar era and it will be "the sizzle that will sell the equipment—not the cast iron," and that is a "pattern for action."

POST WAR DISTRIBUTORS WANTED FOR PELCO "FREEZE-ALL" CABINETS

After the war a great new market for home freeze food cabinets will be ready to harvest. It has been developed by rationing, victory gardens, canning problems and a tremendous amount of publicity.

PELCO—a long experienced manufacturer of electric beverage coolers—will be in the business with a full line of home freeze units. In mechanical design and in appearance we assure you *they will possess exceptional selling advantages,* but important as that may be, on top of that we will have a proposition of unequaled interest to distributors.

Please let us put you on our mailing list to receive market data, literature, information about our extensive promotional plans, sales and service training, and, finally, when circumstances permit, our prices and discounts.

PELCO FREEZ-ALL FOOD CABINET

Portable Elevator Mfg. Co.
212 McClun Street
Bloomington, Illinois

Please send literature, market data, promotional plans and other interesting information on the PELCO FREEZ-ALL food cabinet.

Company .....

Address .....

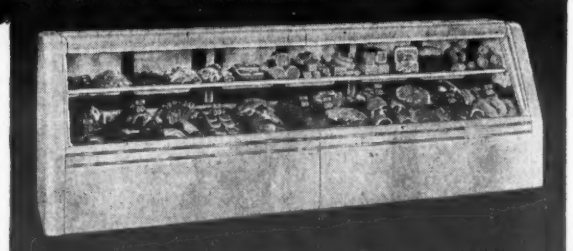
Executive .....

PELCO refrigerators and coolers manufactured by Refrigeration division PORTABLE ELEVATOR MFG. CO., Bloomington, Ill.

Years Ahead

PRE-WAR

Before the war the many advanced features of the famous HILL 1950 Series led the field. It truly was *YEARS AHEAD!*

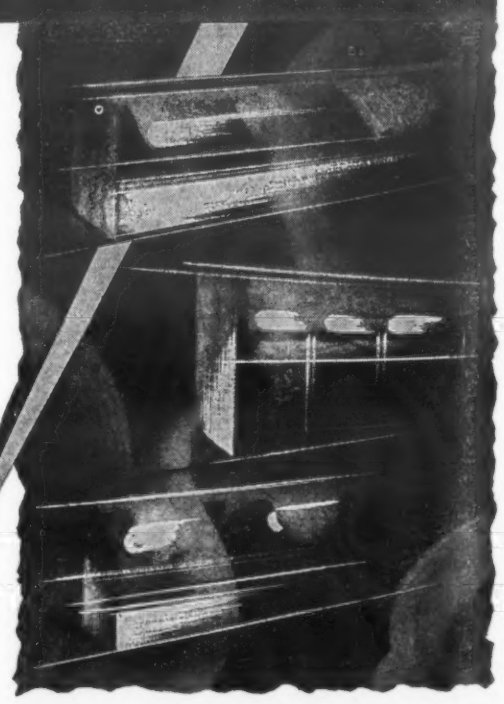


THE PRE-WAR HILL 1950 SERIES

POST-WAR

A complete *NEW* line of HILL equipment, incorporating many new features never before seen, has been developed and made ready for quick production as soon as the war is over. The new models are further advanced than ever before.

If you wish the pleasure of selling the latest and best, write. A few territories are still open to active, well established dealers.



BE READY TO GO WITH Hill WHEN THE NEW MODELS COME OUT!

43-5

C. V. HILL & CO., Inc., Trenton 1, N. J.

Army Refrigeration Problems

By P. B. Reed

Electric Refrigeration and Air Conditioning Division, Servel, Inc.

Lapping Seals, Plates, Etc.

In a refrigeration compressor there are parts which must move with respect to other parts, yet there must be no leakage of pressure between these parts. The shaft seal assembly is an example of two parts that move but between them there must be no leakage of refrigerant out of the compressor nor leakage of air into the compressor.

Vanes in a rotary compressor must separate the high and low pressures and must prevent leakage from the high to the low. Discharge and suction valves must fit so that when they close they must prevent any leakage of refrigerant pressure.

In all of these cases dependence is placed on the two parts being so accurately fitted to on eanother that a gas-tight joint is formed. The surfaces of the parts must be almost perfectly true; they must be accurate to within a few millionths of an inch. To get them this accurate they are "lapped."

Lapping Is an Art

Lapping is an art. It requires a little knowledge and a good deal of practice to become proficient. Some mechanics never quite get the "knack" of it although it is really quite simple. **Cleanliness is the first requisite.** With some knowledge of what he is trying to accomplish, plus cleanliness, **plus much care,** the refrigeration man need not be afraid of being able to do a good lapping job.

In the standard method of lapping, lapping blocks are used. A lapping block consists of a fine grain cast-iron plate as shown in Fig. 1. The top surface of the lapping block must be accurately flat; for all practical purposes it must be "perfectly" flat.

Lapping blocks should be kept in sets of three, one on which iron or steel parts are to be lapped, one for bronze or brass parts, and the third as a spare block to use as a master block with which to check the other two blocks.

When lapping a part the block itself is cut as well as the part being lapped and this gets the surface of the block out-of-true. By putting a very small amount of mechanic's blue on the master block, spreading it very thin and then pressing the blued face of the master block on the lapping block to be tested, the blue will adhere to the high spots on the surface of the lapping block leaving the low spots uncolored.

The blocks may be taken to a machine shop and reground on a surface grinder or two of the blocks may be lapped against each other with abrasive in between them, turning them in a "figure eight" motion while lapping, until they are accurate again as shown by a retest with the master block.

Pores Become Filled

The pores of the iron in the lapping block become filled with the fine powder lapped off the cast-iron valve plate, the steel seal ring or the bronze face of the bellows seal and it is extremely difficult to completely clean the pores. If an iron valve plate were lapped on a block and then a bronze bellows face, some of the iron grindings from the valve plate would get into the bronze bellows face and, embedded there, would cut the seal ring when the seal was put into use.

Therefore, it is best to have one block for iron or steel and one for brass or bronze parts. In addition, the blocks should be kept clean by washing frequently with clean naphtha or gasoline. The three plates should preferably be kept in a box with separate compartments and with a cover so as to protect the blocks against damage.

The abrasive to be used varies with the material to be lapped and the speed of lapping desired. The abrasives are mixed with clean compressor oil to form a thin paste which is spread evenly but lightly on the lapping block. Iron or steel parts are lapped with emery powder. Number 302 is for fast cutting on valve plates but a fine grade, number 303½, is more suitable for finish lapping steel seal rings.

If 'Case-Hardened' . . .

Some steel parts such as seal rings are "case-hardened." The outer part, to a thickness of .015 to .020 inches, is very hard but the steel is soft underneath. Deep scratches or scores may have cut entirely through the hard outer shell. It would, therefore, be useless to lap enough metal off to remove the cut for by that time the soft under-metal would be exposed and this would be worn rapidly by the bellows face running on it.

Do not use emery for lapping bronze or brass parts as the emery embeds into the soft metal. Do not allow emery to get on the block on which brass and bronze parts are lapped, either directly or by being carried on parts to the block.

As an abrasive for brass or bronze parts use pumice; a coarse pumice for cutting out scratches, but for a finish surface use a finely powdered pumice which may be obtained from wholesale (and some retail) drug houses. Mix oil with the pumice to form a thin paste and spread this paste smoothly and in a thin layer over the block.

An even finer, softer abrasive for finish lapping bronze is number 00 Velvite or equivalent. Do not attempt to lap dirty parts; wash them in naphtha first before putting them on your clean lapping blocks.

How to Lap

When lapping a part, grasp it lightly and loosely and move it over the face of the block in a figure eight sort of motion. Release it occasionally and grasp it at a different angle. Do not press hard on the part, and do not try to force the speed of lapping. Lapping cannot be rushed. It requires skill, which however, may be acquired with practice and patience.

When you think the part is lapped sufficiently, wash the part in clean naphtha and then dry-lap it on a clean block with no abrasive, to get a polish on the surface. This will enable you to detect low spots which will show up as dull portions against the polished surface. Some of the special low-friction bronzes do not take a polish but they may be examined for surface condition by using a magnifying glass of about 5 to 10 power.

Most experienced lappers use lapping blocks and an arrangement similar to that outlined above, but this equipment is for shop use and is not readily portable. For use in an emergency or in the field, a piece of new plate glass about ½ to ¾ inches thick may be used instead of the cast-iron blocks.

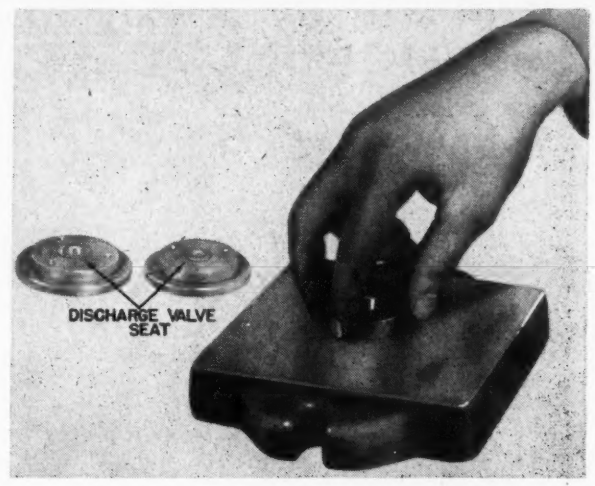
For Emergency Lapping

Instead of using emery, pumice or other abrasive powders directly against the plate glass, "wet-or-dry" Crystolon or Carborundum paper is used. The plate glass merely acts as a flat, true surface on which the paper is laid, abrasive side up. The paper should be wetted with naphtha or gasoline and it will then stick to the glass and thus form a true surface on which the part is lapped.

The paper may be changed when it becomes worn or dirty or if it is desirable to use a coarser or finer paper. Be sure, however, that the surface of the glass is clean before applying the wet paper.

Fig. 1—Standard Method of Lapping

Here is the proper way to hold a small part on a lapping plate. Much care must be taken to obtain an accurate flat surface, for lapping is an art.



"Wet-or-dry" paper comes in many grades from about No. 180 which is comparatively coarse and suitable for fairly fast cutting or iron or steel through about No. 320, medium and suitable for suction and discharge valve seats, to No. 400 or No. 600, very fine, suitable for finish lapping seal noses or rings.

Wet-or-dry abrasive paper may be obtained from any good paint store or refrigeration supply jobber. The sheets should be kept separate and may be used over again. Even when lapping, occasionally clean the paper with a new soft brush dipped in naphtha.

Remember, the purpose of lapping is to produce a fine accurate **flat** surface, free from low or high spots. If the surfaces are flat, have a good finish, bear on one another with moderate and even pressure, are parallel to one another, are clean and have a light film of oil between them, they will not leak.

Philco Radio Program Features War Events

PHILADELPHIA — Full Columbia network of 119 stations, plus Canadian stations, carry the new radio program introduced by Philco Corp. recently called "Eyewitness — The News Story of the Week," according to James H. Carmine, Philco vice president in charge of merchandising.

Nema Elects Kebler New President

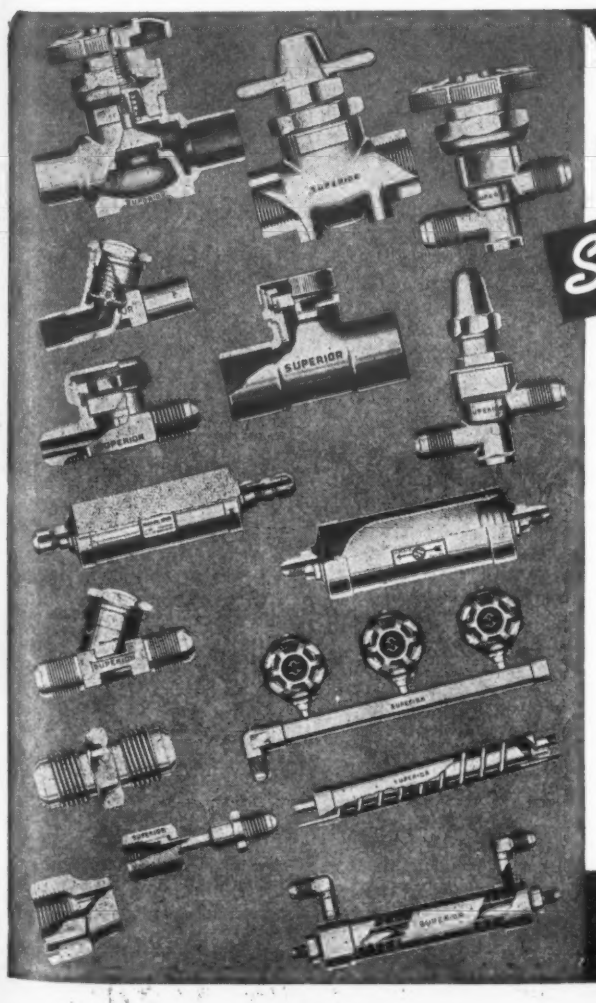
NEW YORK CITY—Leonard Kebler, president of Ward Leonard Electric Co., Mt. Vernon, N. Y., was elected president of the National Electric Manufacturers Association (Nema) at the association's annual meeting held recently at Hotel Waldorf-Astoria here.

Nema also elected five vice presidents: V. R. Despard, vice president of Pass & Seymour, Inc., Syracuse, N. Y.; C. R. D'Olive, manager of Stewart-Warner Corp.'s household appliance division, Indianapolis; C. W. Higbee, manager of the wire and cable department of U. S. Rubber Co., New York City; D. G. Phelps, vice president of Colt's Patent Fire Arm Mfg. Co., Hartford, Conn.; and A. C. Streamer, vice president of Westinghouse Electric & Mfg. Co., Pittsburgh, Pa.

F. T. Wheeler, vice president of the Trumbull Electric Mfg. Co., Plainville, Conn., was re-elected treasurer.

Davison Net Dips

BALTIMORE, Md.—Davison Chemical Corp. and subsidiaries report for the September quarter net income of $274,186 against $282,224 for the same period last year. Net sales increased 26.9%.



Superior has gone to War!

★ DIAPHRAGM PACKLESS VALVES
★ PACKED AND PRESSURE CUP VALVES
★ CHECK VALVES AND LIQUID INDICATORS
★ DEHYDRATORS AND FILTERS
★ MANIFOLDS AND HEAT-EXCHANGERS
★ FITTINGS AND ACCESSORIES

Even though we are working "round the clock" on implements of war, every passing month strengthens our conviction that refrigeration equipment is so vitally essential that we should continue to allocate an increasing percentage of our manufacturing facilities, personnel and planning to our refrigeration products.

THAT'S OUR POLICY . . . continuing to do even a better job of supplying, as promptly as conditions will permit, more valves, manifolds, heat exchangers, dehydrators, liquid indicators, fittings and accessories to manufacturers, jobbers, installers and service engineers.

Write for Copy of Catalog R-2 No. 86

SUPERIOR VALVE & FITTINGS CO.
★ 1509 WEST LIBERTY AVENUE ★
PITTSBURGH ★ PENNSYLVANIA

IF A MANUFACTURER SAYS THIS ABOUT CHANGING FROM "FREON" TO METHYL CHLORIDE . . .

. . . In every instance the entire equipment (including condensing unit, refrigerant lines and evaporators) must be processed because of moisture.

. . . install new Silica Gel drier in liquid line.

use

DAVISON'S SILICA GEL

AS YOUR DRYING AGENT

Because

Davison's Silica Gel Has Maximum Capacity for Moisture.
Davison's Silica Gel Removes Acids and Corrosive Compounds—prevents damage to the system.

And in addition

ACTS INSTANTLY, WILL NOT CAKE NOR POWDER, IS NOT AFFECTED BY OIL

Developed especially for the refrigeration industry, Davison's Silica Gel has won the approval of "results-minded" service engineers. Its outstanding record of performance is your guarantee of complete satisfaction. Your jobber stocks it—in factory-charged dehydrators and for refilling.

THE DAVISON CHEMICAL CORPORATION
BALTIMORE-3, MD.
Progress Through Chemistry

Accelerated SILICA GEL

Set-Up of An 'Incentive Pay' Plan That Pays Out Is Described

DETROIT—"Incentive pay" plans are considered by many people the answer to some problems of increasing production and improving employe relations, both of which are highly important factors in our wartime economy, and of all the incentive pay plans developed that of National Automotive Fibres, Inc. here has been adjudged the best by the War Labor Board.

Manufacturing parachutes, National Automotive Fibres sought to increase the efficiency of its sewing machines, which are difficult to obtain. It should be noted, however, that this plan does no more for the company than that, other perhaps than improving employe relations. Any increased profits that might accrue to the company through increased efficiency are passed on to the employes in the form of bonuses for exceeding the basic production rates.

Principle of the incentive plan is the establishment of basic rates of production, which must be exceeded by the employes to win bonuses.

"After exhaustive time study of each operation," explains W. Joseph Hosier, personnel director of the company," production standards were set up. To arrive at the final basic figure, allowances were made for the individual worker, the machine or job, and incentive."

Personal allowance was from 5 to 12½%; machine or job, 3 to 5%; and incentive, 25%. Thus the basic standard production figure was approximately 85% of theoretical production with no allowance for stoppage. An efficient employe could thus easily produce at least 20 to 30% over basic standards, says Mr. Hosier.

As outlined in the official agreement between the company and the CIO union, the plan works as follows:

"The production for the day was obtained and multiplied by the above mentioned time study standards and the total credit hours for each department were thus obtained. From these credit hours were substracted the actual hours worked in each department and the resulting figure gave the bonus hours accruing to each department.

"These departmental bonus hours were multiplied by the actual average rate for the department and the total bonus money thus obtained. This total bonus money was divided by the total number of hours worked in the department to obtain the pennies per hour which was paid to each employe for every hour they worked that day."

Describing the plan, Mr. Hosier points out, "In the first place we have very little indirect labor in our departments and included all employes in the bonus participation with the exception of the sweepers. The inspectors were included in the group who received bonus.

"One of the big faults we found was that our main department, comprised of about 250 employes per shift covering 10 different operations with only one pay-off point, was not satisfactory due to the fact that the work in process comprised such a high percentage of the total production that we were penalizing the individual operations.

"In other words, some of the first operations in the department might be 135% efficient and if the operation at the pay-off point were not efficient, the earlier operations would be penalized. The only remedy, of course," avers Mr. Hosier, "is to break a large department down into as many small divisions as is possible. The ideal setup, is, of course, piece work, if it is at all possible to install.

"This bonus plan is paid on the number of hours worked rather than on a rate basis. In other words, all employes participate equally regardless of the rate of pay for their job. We checked the employe's daily production figures by taking weekly inventories and adjusted our production figures accordingly, where discrepancies occurred.

"The bonus was computed daily," Mr. Hosier states, "but so that employes would not be penalized for a bad day's production, thus ruining their bonus for the entire week, it was necessary for us to credit them with 100% production for that day in order not to reduce the percentage of efficiency for the week."

Since it was virtually impossible to establish basic production rates for the Receiving and Shipping departments, these two departments' bonuses were arbitrarily "plugged in at the percentage of efficiency of one of the larger departments," Mr. Hosier explains. "We feel it best not to include anyone in payment that was not directly contributing to the earnings of the bonus," comments Mr. Hosier to explain why the Maintenance department and the machine shop were not included.

. . . and drive even harder on the pay-roll savings plan!"

Make War Bonds the Christmas Order of the Day. Urge your workers to make their personal Christmas gifts in the form of War Bonds—and practice what you preach! Make this a 100% War Bond Christmas—to insure future Yuletides of peace and prosperity.

Make up your own posters to spread the "War Bonds for Christmas" story across your plant. Tell the story again and again on bulletin boards, in your plant magazine, and on pay envelope stuffers.

But don't forget your basic, all-important Pay-Roll Savings Plan. How's it going, these days? Perhaps it needs a bit of stoking-up right this very minute, to hold its full head of steam against the competitive demands of the holiday season.

Well, you're the man to stoke it! You can't expect it to keep running indefinitely on last summer's enthusiasm. See to it that your participation percentages, and your deduction percentages, *both* end up the year at new levels.

Every month, now your Pay-Roll Savings ought to run well ahead of the preceding month. *For so many families that formerly depended on the earnings of a single worker, now enjoy the combined earnings of several.* Such *family* incomes are doubled, trebled, even multiplied many times.

Now's the time to turn as much as possible of these increased earnings into War Bonds—War Bonds for Christmas . . . and War Bonds the whole year 'round!

GIVE THE PRESENT WITH A FUTURE—WAR BONDS!

This advertisement prepared under the auspices of the United States Treasury Department and the War Advertising Council

How Graybar Did Something More Than Just 'Think' About Postwar Planning

Committees Function on Products, Personnel, Records, Etc.

NEW YORK CITY—Postwar planning is a timely and interesting topic for converation, but Graybar Electric Co., national distributing organization, has long since quit talking and got "down to brass tacks."

Months ago, Herbert Metz, one of the company's general sales managers, was appointed chairman of a committee to make plans for V-Day and the days thereafter. He named three men to assist him: Kenneth B. Hopkins, advertising and sales promotion manager; August J. Eaves, sales statistician and priorities expert; and James A. Mayer, supply sales manager.

Mr. Metz has been with Graybar 30 years as salesman, advertising and sales promotion manager, director of appliance and product engineering, appliance and radio sales manager, and his present position. Thus his background encompasses most of the firm's broad activities.

Besides distributing vast amounts of household appliances, Graybar sells and delivers the products of about 200 manufacturers to power companies, electrical contractors, industrials, telephone companies, and other large users, as well as handling traffic control, street lighting, fire alarm and other electrical equipment for sales to cities.

Graybar, which is owned completely and entirely by its employes, has 85 offices and warehouses located in what it considers strategic trading centers throughout the country. Of these establishments 18 are major offices and 67 branches of these offices.

Operating as a steering committee, the four-man group headed by Mr. Metz first made an intensive study of what other companies had done about their postwar planning. Following this, seven sub-committees were appointed by the original group, each chairmanned by a headquarters man whose experience and work made him an authority on the subject to be considered by the committee.

7 COMMITTEES WORKING

The seven committees, which have been functioning for more than a year, are: markets and market research; personnel and employe training; new products; municipalities; methods, records and accounting; appliances; and supply.

First problem tackled by the markets and market research committee was "Are we sure that the 85 offices that we now have, in what we now believe are strategic marketing centers, will be properly placed in the postwar period? Will we have enough offices or have we too many? What effect on our office location will the major shifts in population have? If these shifts will be permanent what changes will they make necessary in the relocation of old offices and the establishing of new ones?"

Questionnaires were sent to managers of the 18 major offices seeking answers to the above questions. The information so obtained will be used to map new office locations after the war.

WHAT NEW CUSTOMERS

Second problem involves "What new customers may be developed for the future? New industries may bring new customers. What will those industries and customers be, and how can they best be served? Then again, there will undoubtedly be a major building boom in the postwar period. Building brings with it the need for electrical supplies. How can Graybar best be geared to get its share of this business?"

Chief consideration of the personnel and employe training committee is to make provision for the rehiring of every employe who is now serving with the armed forces. Fitting the employe back into the organization has already started. A complete card index is maintained on every man who has entered the service, showing what work he did for the company, his special abilities and aptitude, and in addition all specialized training received with military service, if possible.

Hiring of new employes after the war is also being considered by the personnel committee, with the thought of perhaps instituting more scientific tests for prospective workers. Too, the group is engaged in the development of a more complete over-all training course and is presently working on the suggested curriculum.

CHECKUP ON PRODUCTS

The new products committee examines all publications that might announce new products or applications and uses for products Graybar sells, and keeps in touch with other sources of information on new products.

This committee has already lined up a firm whose product, now manufactured exclusively for war use, will have many peace-time applications.

Close contact is being maintained with municipalities by that committee to keep in touch with their postwar plans for civic improvements, so that **Graybar will be prepared** for such jobs.

Appliance committee is maintaining close relations with appliance manufacturers in order to keep in step with their postwar plans as well as to keep the manufacturers informed as to what Graybar is considering for its postwar distribution activities.

WOLVERINE
REFRIGERATION TUBE
WOLVERINE TUBE DIVISION
OF CALUMET AND HECLA
CONSOLIDATED COPPER COMPANY
1413 Central Ave. • Detroit, Michigan

PURO ELECTRIC WATER COOLERS
Different models available for the various requirements of government agencies and war production plants.
PURO FILTER CORP.
440 Lafayette St., New York
DRINKING WATER SPECIALISTS FOR 40 YEARS.

Heat Interchangers
●—Large Surge Capacity
●—High Heat Hold
●—Sweat and Flare Fittings
●—Low Cost
KRAMER TRENTON Co.
Heat Transfer Products
TRENTON, N. J.

CORDLEY
Electric
WATER COOLERS
ALL SIZES FOR SHIPBOARD AND LAND USE
MEET GOVT. SPECS.
CORDLEY & HAYES, NEW YORK, N. Y.

For: TRUCKS, LOCKERS, COOLERS, COUNTERS, CABINET CONVERSIONS, *use:*
KOLD-HOLD PLATES
KOLD-HOLD MFG. CO.
LANSING, MICH., U.S.A.

If Gov't Dumps Its Surplus Stocks, Postwar Prosperity Will Receive Terrific Jolt, Norge Head Says

CHICAGO — Postwar adjustment and prosperity will receive a disorganizing jolt if the government permits its own distribution agencies, conducted for the benefit of the Armed Forces, to sell directly to private consumers, Howard E. Blood of Detroit, president of Norge Division of Borg-Warner Corp., told the Chicago Federated Advertising Club in a recent address on the future of distribution.

Pointing out that "demobilization will be followed by the need for the government to dispose of large quantities of surplus goods, "Mr. Blood said:

"Such disposition may, if not properly regulated, swamp civilian markets and disorganize for a long period the normal function of both the production and distribution of certain goods. The United States probably will continue to maintain large military forces after the war. The existence of these forces, whose energies and purchasing powers will be diverted from ordinary civilian lines, is certain to affect both the production and distribution of goods through private channels."

WARNS AGAINST LAWS

Mr. Blood, who is chairman of a sub-committee on postwar distribution for the National Association of Manufacturers, warned against the dangers of enacting restrictive local and state laws which disrupt distribution, run up costs, paralyzes business and destroys free enterprise. Declaring that postwar employment conditions and living standards will depend almost entirely on how effectively the nation can distribute the goods it produces, Mr. Blood continued:

"If distribution management fails to answer in terms of production requirements which provide relatively full emplyoment for manufacturing employes, then the imperious demand of a politically powerful segment of the American people might be that government step in and direct industrial operations under the illusion that government ownership or control would provide work for all who want it."

Mr. Blood predicted that after the war there will be a much greater "diversification in food use and a continuing trend to dine out."

"Deferred travel desires on the part of the public will be very great," he said. "Vastly increased air passenger transport should greatly reduce air travel costs and increase air travel. Housing is one of several major fields which will actively compete with the travel desire and with new and improved products in many lines which will be presented to the public. Total purchasing power will be greater than prewar. This will mean greater production of semi-luxury items than before, with a corresponding increase in the importance of distributing outlets."

SEES 'ORPHAN LINES'

Reflecting increased competition for the consumer dollar, many manufacturers without previous experience in making particular products are going to enter new fields in the immediate post-hostility period, Mr. Blood believes. While this may result in improvements in some products it also may bring about many "orphan lines," he said.

He explained also that committee studies indicated that local banking institutions will enter the consumer credit field more aggressively by offering plans for extending consumer credit on a much larger scale than formerly.

Mr. Blood forecast a bigger demand for professional services after the war, including also beauty parlors, recreational centers, hotels and gas stations.

He sees a trend towards larger average size of retail stores; accelerated decentralization of shopping areas; increasing numbers of suburban branches operated by large metropolitan retail stores; air express changing methods of retailing and servicing products; a steady decline in the unit cost of distributing many specific products; an impressive rush towards improvements in retailing and other distributive institutions as soon as the war is over.

Mr. Blood said that Americans owe to advertising a large share of their standard of living which he termed the world's best.

"New inventions and products, which will come in large volume after the war, would be of little value were it not for the advertising which, not only tells people of their availability but stimulates desires not formerly in the people's consciousness," he said.

"Advertising is necessary to the maintenance of our free distribution system, which is a vital part of our private enterprise system. Distribution has employed and will employ very large numbers of people and in the transition period after the war will be one of the most important means of transferring people from war work to peacetime pursuits."

Philadelphia Still Eager for Courses On Refrigeration

PHILADELPHIA—Enthusiasm for the refrigeration training course sponsored by the Electrical Association was demonstrated in the enrollment of 165 trainees for the fall course.

Following the unexpectedly large enrollment in the first course last year the Electrical Association arranged with the school authorities for setting up two summer courses starting June 10, one on advanced refrigeration service training, the second a repetition of the original course on domestic refrigeration.

The third or fall course had a total of 165 enrollees, forming five classes, an advanced class with 36 men enrolled and four classes in domestic refrigeration with a total enrollment of 129.

FIVE SKILLED INSTRUCTORS

Five skilled instructors conduct these classes. Each class attends two sessions each week, on Monday and Wednesday evenings, or on Tuesday and Thursday evenings. Each session is from 7 p.m. to 10 p.m. and includes a one hour lecture on theory, etc., and two hours devoted to practical shop work on actual equipment.

Following the procedure of the original course, all classes are limited to a total of about 35 men in order that all men may have ample opportunity not only to work on equipment, but to be given the necessary amount of personal supervision and instruction.

The course is free and each man enrolled received without charge an up-to-the-minute and readily understood textbook covering each of the subjects included in the course. The accompanying sheet outlines the schedule of subjects to be covered.

SCHOOL SYSTEM HELPS

The program of the Refrigeration Service Training Course was worked out by a technical committee representing the Refrigeration Service Managers Division of the Electrical Association. In addition to this, the member companies of this division made available to the School District sufficient equipment so that each trainee can receive the benefit of an adequate amount of practical shop work. The committee also has supplied the instructors for the activity.

The School District through the Murrell Dobbins Vocational School, has provided adequate space in which to conduct the course. This space includes classrooms for the lecture periods and shop space for practical work. The instructors are paid by the School District.

A large proportion of the men who have enrolled in these courses are already engaged in varying degrees in refrigeration service work. Many of them working for service shops are ambitious to increase their knowledge and skill, while a strong percentage are maintenance men representing industrial plants which include refrigeration or air conditioning installations in their equipment.

In the latter case, the knowledge gained in the earlier classes by such men enabled them during the recent warm season to take care of many of the lesser service problems, thereby materially lightening the demand upon already over-burdened refrigeration service shops.

The Electrical Association recognizes refrigeration service as a highly important branch of the industry, the scope of which will increase in the years to come. Based upon this fact, these educational courses in electric refrigeration will be continued.

Following is the schedule of subjects at the school:

1. Principles of Refrigeration; 2. The Theory of Refrigeration; 3. Refrigerants and Their Characteristics; 4. Compressors; 5. Condensers and Liquid Receivers; 6. Float Type Liquid Control Valves; 7. Expansion Valves; 8. Temperature Controls; 9. Motors; 10. Installation Procedure; 11. Sealed Unit Systems; 12. Household Refrigerator Cabinets.

'Now, Here's What Happens'

Lectures and demonstrations, such as shown above, are an important part of the program to train service men sponsored by the Electrical Association of Philadelphia. Students also learn through actual work on refrigerating equipment.

WANTED

MANAGER ORDER DEPARTMENT

by leading refrigeration manufacturer. Here's a real present and postwar opportunity for an aggressive man. A-1 working and living conditions, congenial associates. Knowledge of refrigeration helpful, but not essential. Send complete information on experience, draft status, salary. Box 1503, Air Conditioning & Refrigeration News.

LA CROSSE
Wishes you
A Very Merry Christmas
La Crosse Novelty Box Mfg. Co.

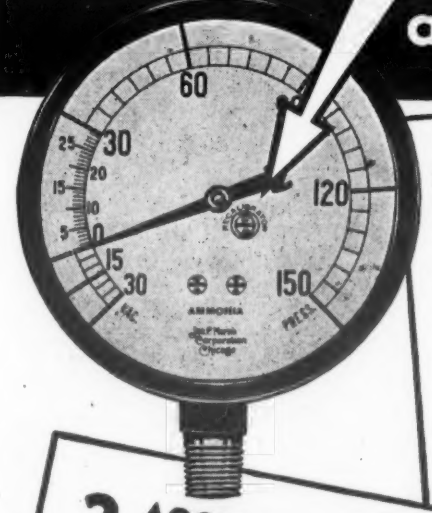
Your refrigeration parts and supply house in Central New York and Northern Pennsylvania.

TED GLOU
CENTRAL SERVICE SUPPLY CO.
409 E. Jefferson St., Syracuse, N. Y. Phone 5-4000
209 Jefferson Ave., Scranton Pa. Phone 3-4000

To all our friends
Both far and near . . .
A Happy Christmas
And a Victorious New Year!

ANSUL CHEMICAL COMPANY
Sulfur Dioxide...Methyl Chloride
AGENTS FOR KINETIC'S "FREON-12"
MARINETTE • WISCONSIN
Eastern Office: Paoli, Pennsylvania

THAT "RECALIBRATOR" tells you two things about a gauge



1. GREATER ACCURACY AND STAMINA

When you find a gauge with the "Recalibrator" you've found a gauge that has behind it 75 crowded years of improving and perfecting gauge construction. Such a gauge offers the utmost in accuracy and stamina, with an outstanding service record to show how well it will meet today's greater responsibilities.

2. ACCURACY IS LOCKED IN

Nobody has ever found a way to build a gauge that can't be knocked or jolted out of adjustment. But Marsh has found the one basically sound way to correct such a gauge. A twist of the "Recalibrator" screw is all it takes, and the gauge is accurate again at all points on the scale. Unlike the ordinary "adjustment," the "Recalibrator" strikes at the root of the error—actually recalibrates the gauge by reestablishing the proper relation between the bourdon tube and the movement.

The "Recalibrator" is available on all Marsh Gauges, standard on all Marsh Dial Thermometers. You'll find the same kind of outstanding features throughout the broad Marsh line. Write for the big Refrigeration Catalog.

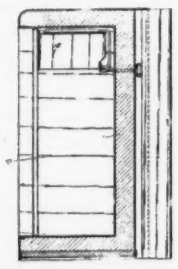
JAS. P. MARSH CORP.
2067 Southport Avenue
Chicago, Illinois

MARSH
Refrigeration Instruments

PATENTS

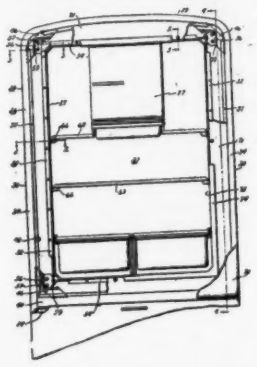
Weeks of Nov. 16 & 23

2,334,219. EVAPORATOR STRUCTURE. Joseph N. Roth, Belding, Mich., assignor to Gibson Electric Refrigerator Corp., a corporation of Michigan. Application May 17, 1941, Serial No. 394,031. 7 Claims. (Cl. 62—126).



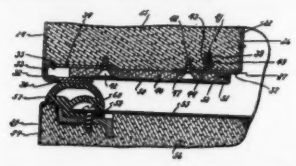
1. In a continuous absorption refrigerator having a food compartment, an evaporator including: a horizontal metal plate of an area substantially equal to the cross-sectional area of the food compartment; and a tube adapted to have refrigerant flow therethrough, the tube having a portion in heat exchange relation with the plate and first passing substantially entirely around the plate near the periphery thereof, then looping back and forth in serpentine bends in contact with the remaining area of the plate, then extending to and looping back and forth in another plane parallel to and above said plate, the portion of the tube in the upper plane having a length substantially equal to that in the lower plane and having an internal diameter at least 50% larger than that of the portion in the lower plane.

2,334,237. REFRIGERATING APPARATUS. Ralph E. Baker, Detroit, Mich., assignor to Nash-Kelvinator Corp., Detroit, Mich., a corporation of Maryland. Application Feb. 9, 1942, Serial No. 430,090. 2 Claims. (Cl. 220—15).



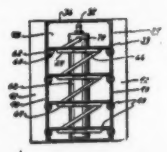
1. A refrigerator cabinet comprising an outer casing arranged to form top and side walls of the cabinet and including an inwardly directed portion extending around the front of the cabinet, an inner casing positioned within said outer casing and being arranged in spaced apart relationship, said inner casing including an outwardly directed portion extending toward the inwardly directed portion of the outer casing but terminating in spaced relation thereto and on substantially the same plane at the front of the cabinet, insulation positioned between said casings, a breaker strip positioned between said casings at the rear of said inwardly and outwardly directed portions of said casings, a rectangular frame embracing said inner casing at the rear of said outwardly directed portion and including a flange, means positioned entirely at the rear of said outwardly directed portion of the inner casing for securing said breaker strip to said flange, means for securing said frame to said outer casing, and means for securing said inner casing to said frame.

2,334,259. REFRIGERATING APPARATUS. Martin J. Goulooze, Grand Rapids, Mich., assignor to Nash-Kelvinator Corp., Detroit, Mich., a corporation of Maryland. Application Nov. 9, 1940, Serial No. 365,138. 2 Claims. (Cl. 220—9).



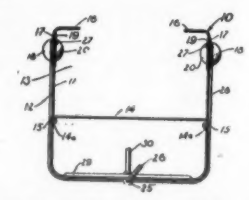
2. A refrigerator cabinet construction comprising inner and outer metal shells having a door opening formed therein, said shells having edge portions about the periphery of the door opening, the metal of the edge portion of the outer shell being bent to form a pocket and including a section extending toward the inner shell, the metal of the inner shell being bent to provide a flange extending toward the outer shell but spaced therefrom and being arranged upon substantially the same plane, a perforated short inturned flange carried by said flange extending rearwardly from said door opening in substantially parallel relation with the side wall of said inner shell, and a breaker strip of substantially the same thickness as the width of said pocket secured to said shells, said breaker strip having a portion thereof extending into said pocket with its inner face in contact with said section, bracket means extending around the edge of and on opposite sides of said inturned flange in parallel relationship therewith and having a tongue portion extending into said perforation for locking engagement with said flange, said bracket including a portion extending on substantially the same plane as said flange and said section, and means securing another portion of said breaker strip to said portion of the bracket and clamping said breaker strip with its face in contact with said flange.

2,334,284. REFRIGERATING APPARATUS. Lawrence A. Philipp, Detroit, Mich., assignor to Nash-Kelvinator Corp., Detroit, Mich., a corporation of Maryland. Application April 12, 1941, Serial No. 388,252. 5 Claims. (Cl. 62—126).



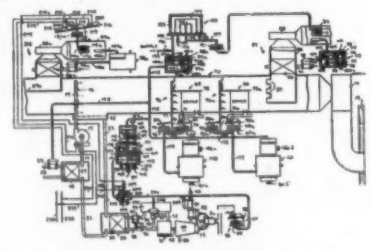
1. In a refrigerating system, the combination with a cooling unit comprising a sheet metal casing formed of thin sheet metal walls and having a plurality of outwardly extending fins associated in intimate heat conducting relation with a plurality of said walls, a plurality of shelves disposed within said casing and directly connected to the walls thereof and a low temperature heat absorbing means arranged entirely within said casing in spaced relation to the side walls thereof and in direct heat conducting association with said shelves for maintaining sub-freezing temperatures within said casing and non-frosting temperatures at least part of the time on the surface of said fins, said fins having an aggregate area such that the heat absorbed from the circulating air prevents a greater amount of frosting from being deposited on the fins than can be frozen during the off cycle of the system.

2,334,331. EVAPORATOR HEADER CONSTRUCTION. Bernard C. Johnson, Libertyville, Ill., assignor to Houdaille-Hershey Corp., Detroit, Mich., a corporation of Michigan. Application April 4, 1941, Serial No. 386,855. 10 Claims. (Cl. 62—126).



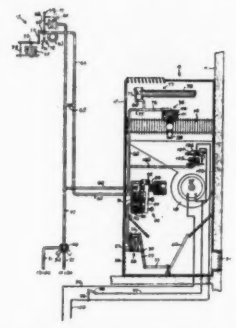
1. A U-shaped sheet metal evaporator unit having the constituent sheets thereof embossed to provide a header chamber in each leg of the unit, a plate between the sheets dividing the chamber into communicating compartments, embossments on the inner sheet defining ducts communicating, respectively, with one of said compartments in said header chambers, and an additional embossment providing a passageway communicating with said ducts to exhaust spent refrigerant from said compartments.

2,334,427. DEW POINT CONTROLLER AND DEW POINT SYSTEM. William L. McGrath, Philadelphia, Pa., assignor to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., a corporation of Delaware. Application June 28, 1941, Serial No. 400,284. 12 Claims. (Cl. 257—3).



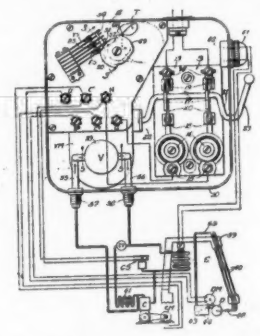
9. In an air conditioning system, in combination, a chamber through which the air to be conditioned passes, refrigeration means for removing moisture from the air by reducing it below its dew point temperature, additional means for removing moisture from the air, and means responsive to the moisture in the conditioned air for gradually decreasing the amount of cooling accomplished by said refrigeration means and then gradually reducing the effectiveness of said additional moisture removing means, said moisture responsive means performing the above function in response to a continued decrease in the moisture in said conditioned air.

2,334,445. AIR-CONDITIONING SYSTEM. Herman Seelbach, Jr., Hamburg, N. Y., assignor to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., a corporation of Delaware. Application June 4, 1942, Serial No. 445,729. 8 Claims. (Cl. 236—38).



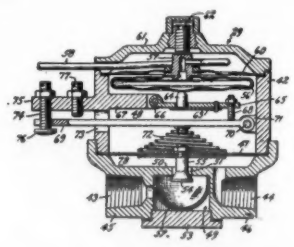
7. The method of ventilating and controlling the temperature of the air in a space which comprises continually forcing fresh air over a heating surface and into the space, varying the rate of heat exchange between the air and the heating surface in accordance with the space temperature during periods when the space is normally occupied, forcing space air over the heating surface in accordance with space temperature during periods when the space is not normally occupied, and varying the rate of heat exchange between the space air and the heating surface in accordance with space temperature during those periods when the space is not normally occupied.

2,334,513. CONTROL TIMER FOR REFRIGERATING SYSTEMS. Burton E. Shaw, Bristol, Ind., assignor to Penn Electric Switch Co., Goshen, Ind., a corporation of Iowa. Application June 30, 1941, Serial No. 400,427. 15 Claims. (Cl. 62—4).



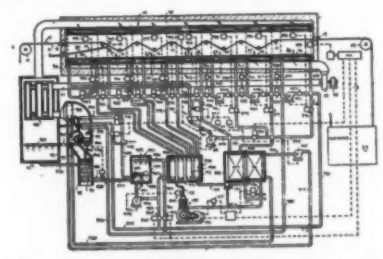
1. In a control timer for refrigeration systems, a timer mechanism, a valve switch, a fan switch and a dehydrator switch, each controlled by said timer mechanism to all simultaneously close for a predetermined period of time after elapse of a predetermined period of time, a valve having an inlet from a refrigerant compressor and an outlet to an evaporator supplied with refrigerant from said refrigerant compressor, a valve motor for operating said valve, said valve motor being controlled by said valve switch, a fan for circulating air over said evaporator to aid in defrosting the same, said fan being controlled by said fan switch, dehydrating means for effecting dehydration of the space between the glass walls of a display casing or the like, said dehydrating means including a motor controlled by said dehydrating switch.

2,334,803. REFRIGERATION. Sven W. E. Andersson, Evansville, Ind., assignor to Servel, Inc., New York, N. Y., a corporation of Delaware. Application Feb. 20, 1940, Serial No. 319,813. 1 Claim. (Cl. 236—92).



A control device for a gas burner comprising a cylindrical casing containing a gas control valve, a circular diaphragm connected at its center to operate said valve, an expansible disc of an expansible fluid thermostat movable on the axis of movement of the center of said diaphragm, levers fulcrumed on said casing at points on opposite sides of said axis and projecting in opposite directions through said axis, connections between said expansible discs and one of said levers and between said levers so that movement of said expansible disc is multiplied in another of said levers, a spring connected between said second lever and one side of said diaphragm, the other side of said diaphragm being subject to pressure of gas on the outlet side of said valve, the tension of said spring being varied to change the load on said diaphragm by movement of said second lever, said second lever projecting through an opening at the side of said casing, and adjustable stops on the outside of said casing for limiting movement of said second lever.

2,334,865. AIR CONDITIONING SYSTEM. Robert B. P. Crawford, Miami, Fla. Application July 21, 1939, Serial No. 285,736. 12 Claims. (Cl. 257—3).



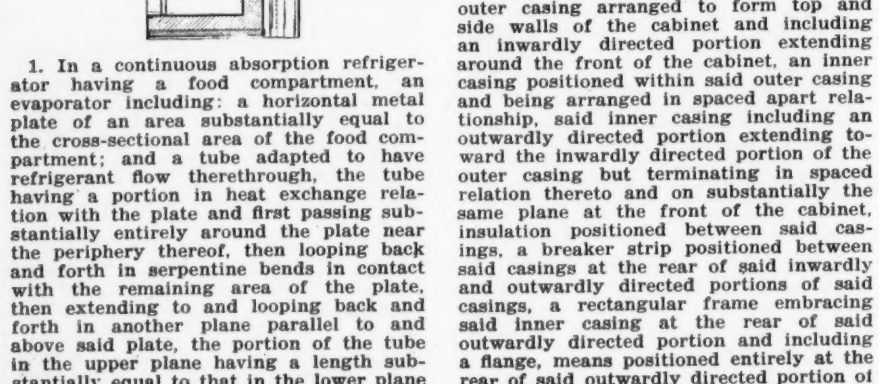
7. In an air conditioning system for an enclosure having certain portions thereof normally requiring cooling and certain other portions normally requiring heating, means for absorbing heat from those

(Concluded on Page 27, Column 2)

America's Largest Jobbers

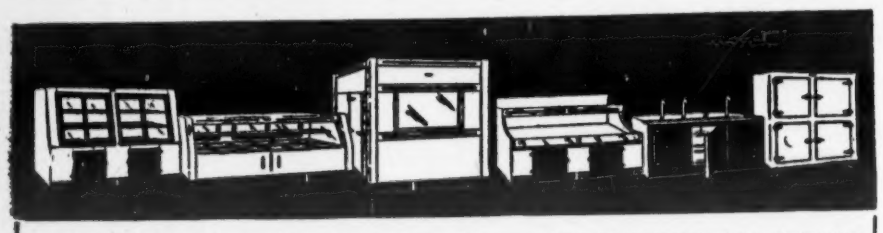
REFRIGERATION

PARTS AND SUPPLIES



THE HARRY ALTER CO.

1728 S. Michigan Ave. Chicago, Ill. — Two Big Warehouses to Serve You — 134 Lafayette St. New York, N. Y.



LARGE SELECTION of PRIORITY and NON PRIORITY ITEMS

DISPLAY CASES, REACH-INS, WALK-INS, DOUGH RETARDERS, BOTTLE COOLERS, VEGETABLE CASES, BEER EQUIPMENT.

MANUFACTURERS OF ALL TYPES OF COMMERCIAL EQUIPMENT

INQUIRE TODAY! DEPT 102

FOGEL REFRIGERATOR COMPANY Philadelphia, Penna. Since 1899

HASCO *Rebuilt* PARTS

Guaranteed Equal to or Better than New

● Immediate shipment on any one of 225 parts, in every respect good as new or better. That's HASCO service, saving time and money for you and your customer! New material supplied where necessary is precision made, all items complete ready to install, packaged, labeled with factory part number.

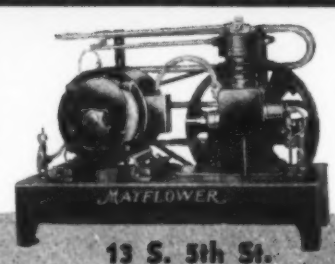
Send for Illustrated Catalog and Price List

HASCO, INC. GREENSBORO, N. C.

GENUINE *MAYFLOWER* UNITS & PARTS

Complete stocks of genuine Mayflower parts are now available. Full line of air and water-cooled condensing units is also available to meet your priority requirements. Order from your jobber or from the manufacturer. Insist on genuine Mayflower parts.

Jobber inquiries invited.



MAYFLOWER PRODUCTS, INC. 13 S. 5th St. Richmond, Ind.

CLASSIFIED ADVERTISING

RATES for "Positions Wanted," 5¢ per word; minimum charge, $2.50. Three consecutive insertions, 12½¢ per word; minimum charge, $6.25.

RATES for all other classifications, 10¢ per word, minimum charge, $5.00 per insertion. Three consecutive insertions, 25¢ per word, minimum charge, $12.50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count.

EQUIPMENT WANTED

USED CONDENSING UNITS. We want to buy some ½ and ¾ 110-220 volt 60 cycle methyl condensing units in good operating condition. TRILLING & MONTAGUE, 2401 Walnut St., Philadelphia 3, Pa.

EQUIPMENT FOR SALE

ELECTRIC BOTTLE COOLERS. Brand new, streamlined. No priority required. Immediate shipment. 4½ case capacity. Self-contained with ¼-hp. Universal Cooler Corporation unit ready to plug in. Equipped with interior shelving and can be used as an 8 cu. ft. food refrigerator. Price $105. GENERAL REFRIGERATOR CO., 855 N. Broad St., Philadelphia, Pa.

100—FRIGIDAIRE Model "K" ⅛-hp. units, $32.50; 100—Frigidaire Model A233E ⅛-hp. units, $42.50. All units in running condition, with A.C. 60 cycle motors. F.O.B. New York. Write for our surplus list. 25% deposit must accompany all orders. EDISON COOLING CORP., Dept. R., 310 E. 149th St., New York 51, N. Y.

NEW ACME COOLER model U-69, No. 1942-4, Cat. No. 5, Dry-Ex water cooler, size 8⅝" dia. x 12' long; "A" baffle spacings, complete with insulated jacket; 110.2 sq. ft. surface. CONSOLIDATED CONDITIONING CORP., Mt. Vernon, N.Y.

POSITIONS AVAILABLE

MIDDLEWEST REFRIGERATOR MANUFACTURER desires the services of a man qualified to design commercial refrigerator cabinets, consisting of bottle coolers, reach-in cabinets, and beer dispensers equipment, also 8-10-12 cubic foot deep freeze cabinets. Should be able to make shop drawings so that models can be created as quickly as circumstances permit. Individual meeting these qualifications can work himself into having complete charge of engineering and production. Write to Box 1497, Air Conditioning & Refrigeration News.

A THOROUGHLY EXPERIENCED refrigeration service man with at least 15 years of practical and constant experience is hereby offered an opportunity to consider a new job should he be dissatisfied. Steady job. Good salary. Located in the most ideal city in the country. All applications treated with strictest of confidence. Box 1496, Air Conditioning & Refrigeration News.

EXPERIENCED COMMERCIAL refrigeration and air conditioning service engineer for well established Texas concern. Permanent. State age, experience, and salary expected. Box 1501, Air Conditioning & Refrigeration News.

PRODUCTION MAN—Washing machines. An outstanding opportunity for an outstanding man who has a thorough knowledge of production methods, plant layout and cost accounting. Man selected will be employed 100% in war production for the duration, then his talents will be utilized in civilian production. The advertiser is a large manufacturer located in the Chicago area. Replies will be kept strictly confidential. Our employes have been advised of this advertisement. Write giving complete details as to age, experience, present earnings, etc. Box 1502, Air Conditioning & Refrigeration News.

COMMERCIAL REFRIGERATION SERVICE mechanic. Best working conditions, steady work, good pay, only experienced need apply. Box 1498, Air Conditioning & Refrigeration News.

POSITIONS WANTED

REFRIGERATOR SHOP MECHANIC. 44 years of age, 5 years experience on domestic and commercial electric driven units of many types. 10 years experience on AC and DC motors. Wish to work for an established firm. Box 1491, Air Conditioning & Refrigeration News.

EXPERIENCED REFRIGERATION salesman with successful background is desirous of obtaining representation of factory line of home freezing units, conservators or domestic refrigerators for postwar and present. Familiar with setting up jobber and dealer setups and direct to public sales organizations N. J.-Md.-D. C. and Eastern Penn. Correspondence invited. Box 1494, Air Conditioning & Refrigeration News.

MANUFACTURER'S REPRESENTATIVE for refrigeration service and installation. Twenty-five years experiece on all air conditioning, commercial, and low temperature installation and maintenance on all gases. Capable of conducting large crew of workmen and repair shop. Can furnish best of references. Midwest territory, headquarters in Chicago. Box 1499, Air Conditioning & Refrigeration News.

REFRIGERATION SALES ENGINEER with 15 years' experience in commercial refrigeration and air conditioning is interested in securing dealership or manufacturer's representative in Philadelphia territory. What have you to offer? Reply to Box No. 1500, Air Conditioning & Refrigeration News.

DOLE
VACUUM PLATE
COOLING & FREEZING UNITS
CHICAGO

AMANA Commercial REFRIGERATION
Modern Display Cases
Coolers, Refrigerators
AMANA SOCIETY, AMANA, IOWA

Electrimatic
Automatic Control Valves and Regulators
2100 Indiana Ave., Chicago, Ill.

MIDWEST
Household and Commercial Refrigerator Cabinets
Now Making VITAL War Products for Army and Navy
MIDWEST MFG. COMPANY

REFRIGERATION PRODUCTS
fedders
BUFFALO, N. Y.

UNIVERSAL COOLER
MARION, OHIO — BRANTFORD ONTARIO
WE SELL TO MANUFACTURERS ONLY
UNIVERSAL COOLER CORPORATION
Automatic Refrigeration since 1922

HEAT TRANSFER EQUIPMENT
MARLO COIL COMPANY
SAINT LOUIS, MISSOURI

PHOTOGRAPHIC PROCESSING EQUIPMENT
Controlled Temperature Film and Print Developing Equipment. Cooling Units for X-Ray Developing Tanks. High Speed Film and Print Drying Equipment. Controlled Temperature Photographic Processing Sinks.
TEMPRITE PRODUCTS CORPORATION
41 Piquette Avenue Detroit, Michigan

Use CHICAGO SEALS
for seal replacements
A complete line in all sizes
CHICAGO SEAL CO.
20 North Wacker Dr., Chicago

ALCO
For Maximum Evaporator Efficiency
ALCO VALVE CO. ST. LOUIS, MO.

Seamless
PENN
BRASS and COPPER TUBING
PENN BRASS & COPPER CO
ERIE, PENNA.

Write for Catalog 52
Automatic Pressure, Temperature and Flow Controls
GENERAL CONTROLS
801 ALLEN AVENUE, GLENDALE 1, CALIF.
BRANCHES: BOSTON • NEW YORK • PHILADELPHIA • CLEVELAND
DETROIT • CHICAGO • DALLAS • DENVER • SAN FRANCISCO

BRASS & COPPER SALES CO.
REFRIGERATION SUPPLIES AND EQUIPMENT
2817 Laclede Ave., St. Louis 3, Mo.

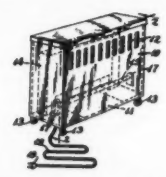
RECOLL COILS — WATER-DEFROST
U.S. PAT. 2,219,393
REFRIGERATION ENGINEERING Inc.
LOS ANGELES • CALIFORNIA

Patents (Cont.)

(Concluded from Page 26, Column 4)

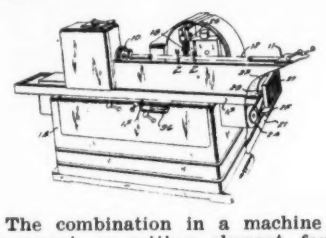
portions of the enclosure normally requring cooling, heat delivery means for those portions of the enclosure normally requiring heating, means for circulating a heat exchange medium successively through the heat absorbing and heat delivery means whereby heat is transferred from those portions requiring cooling to those portions requiring heating, by-pass means for said heat exchange medium around each of said portions, means for cooling said fluid, means for heating said fluid, means responsive to the temperature of the portions normally requiring cooling for causing said heat exchange medium to flow through said cooling means and said heat absorbing means when cooling is required or to by-pass both of them when cooling is not required, and means responsive to the temperature of the portions normally requiring heating for causing said heat exchange medium to flow through said heating means and heat delivery means when heating is required and to by-pass both of them when heating is not required.

2,335,056. PORTABLE AIR STERILIZING AND CONDITIONING MACHINE. Joseph B. Grison, Braintree, Mass. Application March 16, 1942, Serial No. 434,820. 4 Claims. (Cl. 250—43).



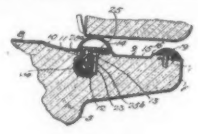
1. A portable air sterilizing and conditioning machine, comprising a housing having openings for the circulation of air, a heater within said housing and in the path of said circulation for warming the air, and a germicidal lamp mounted in the path of said circulation for killing air borne germs and bacteria in the air entering said housing to be warmed, means for slidably mounting said lamp within said housing to be extended from an opening formed in one side of said housing and to be extended vertically along said side, said means comprising a base upon which said germicidal lamp is mounted, a slide upon which said base is pivotally mounted, and means for movably mounting said slide within said housing.

2,335,100. MACHINE TOOL COOLANT TEMPERATURE CONTROL. Russell E. Bauer, Detroit, Mich., assignor to Ex-Cell-O Corp., Detroit, Mich., a corporation of Michigan. Application April 15, 1940, Serial No. 329,634. 8 Claims. (Cl. 51—266).



1. The combination in a machine tool arrangement, a cutting element for removing material from a workpiece, means for supporting the workpiece, feed control means for moving the element and workpiece relatively so as to effect a progressive cutting operation, a fluid coolant medium, means for effecting a flow of the medium over the work during the cuttin goperation, heat exchange means for controlling the temperature of the medium, automatic control means depending upon the temperature of the medium for governing operation of the heat exchange means, automatic control means depending upon the temperature adjacent the feed means for governing operation of the heat exchange means, and means interrelating the two control means so that the temperature of the medium is maintained in approximately a definite relation to the temperature adjacent the feed means.

2,335,185. REFRIGERATOR CABINET CONSTRUCTION. Robert Winter Hull, Connersville, Ind., assignor to Philco Corp., Philadelphia, Pa., a corporation of Pennsylvania. Original application May 18, 1938, Serial No. 208,683, now Patent No. 2,276,778, dated March 17, 1942. Divided and this application June 25, 1941, Serial No. 399,696. 2 Claims. (Cl. 113—116).



1. In refrigerator cabinet construction the method of constructing a door which consists in shaping a sheet metal blank in a manner such that the outer marginal edge of the blank defines a frame member for the door and the remaining portion of the blank defines a door liner offset from the plane of said frame and the inner and outer marginal edges of the frame and liner respectively terminate in parallel laterally spaced right angle flanges extending toward each other and are joined intermediate the planes of said frame and said panel member by a connecting flange, severing the frame portion from the liner at the junction of said connecting flange and one of said right angle flanges and assembling the parts with the frame member encircling said liner in reversed position with respect to said liner and anchoring a compression gasket between the frame member and the liner in the channel formed by said right angle flanges and said connecting flange.

Bendix Nets $86,438

SOUTH BEND, Ind.—Net income of $86,438, or 8 cents a common share was reported by Bendix Home Appliances, Inc. for six months to June 30.

6 of 7 Food Groups Require Cooling, Nema Report Shows

NEW YORK CITY — Six of the seven groups of food in the government's "basic seven" food pattern "must have refrigeration," the Household Refrigeration Section of the National Electrical Manufacturers Assn. reports today in emphasizing the importance of mechanical refrigerators as a war weapon on the home front.

"The government's new food campaign, 'Food Fights for Freedom,'" the report pointed out, "will make everyone conscious of the invaluable service the electric refrigerator is giving during this war time emergency." It continued:

"The government has recognized that proper eating is more important now than ever before if we are to carry on in these trying and strenuous times. And so the refrigerator becomes more important than ever.

"Let's take each group in the Basic Seven food groups and quickly see why the refrigerator is so essential." Here are the report's findings:

VEGETABLES NEED COOLING

Group 1, green and yellow vegetables, are high in vitamin and mineral content. These will lose as much as 50% of vitamin C if left standing at room temperature. If vitamin foods are kept covered in the refrigeartor most of the vitamins are kept in the food.

Group 2, citrus fruits, high in vitamin C, need refrigeration to keep them fresh and palatable. Nature has already provided them with a protective covering to guard against vitamin loss, but they must be guarded further against spoilage over long storage periods.

Group 3, all other fruits and vegetables, are our chief sources of minerals. These foods also contain vitamins, although in smaller quantities. Because we need all the vitamins we can get from natural foods, and because the supply is relatively small in this group of foods, it becomes very important to care for them with proper refrigeration.

Group 4, milk and milk products, needs the protection electric refrigeration will give. When milk is exposed to room temperatures there is a heavy loss of riboflavin (vitamin B_2). To keep milk fresh so that its healthful properties will benefit the one who drinks it, a temperature below 50° is necessary. The electric refrigerator maintains a temperature below 50° always.

CEREALS ARE EXCEPTION

Group 5, meat, poultry, fish, eggs, will spoil very quickly in temperatures from 50° to 90°. And the real danger lies in spoilage before it becomes apparent to the user. It is absolutely essential that these foods be kept at a low temperature to avoid waste in spoilage.

Group 6, bread, flour and cereals, is the only food group which does not need refrigeration although, in hot weather, refrigeration has been recommended for these foods to prevent molds and spoilage.

Group 7, butter or margarine (enriched with vitamin A), is protected from becoming rancid by proper refrigeration.

Ten years ago, the 5,300,000 buyers of electric refrigerators were told by the salesmen that their new method of preserving foods would give them proper refrigeration. This fact has been proven to the over 19,000,000 owners of today, says the report.

ASHVE Announces Program for 50th Annual Convention Jan. 31 to Feb. 2

NEW YORK CITY—Problems of far-reaching importance will be made at the 50th annual meeting of the American Society of Heating and Ventilating Engineers scheduled for Jan. 31, Feb. 1 and 2, 1944, at Hotel Pennsylvania here.

There will be five technical sessions and papers will cover a wide range of subjects, all relating to The Past, The Present and The Future of Heating, Ventilating and Air Conditioning.

While the Society commemorates its 50th anniversary, it is of interest to note that 1944 also marks the 25th anniversary of the establishment of the Society's research laboratory.

Tentative program for the 50th annual meeting of the A.S.H.V.E. is as follows:

MONDAY, JAN. 31

8:30 a.m.—Registration.
9:30 a.m.—Reports of officers and council.
Report of chapter development committee, W. A. Russell, chairman.
Report of committee on research, C. M. Ashley, chairman.
Report of guide publication committee, P. D. Close, chairman.
Amendments to by-laws.
Report of tellers of election.
12:30 p.m.—Get-together luncheon.
2:00 p.m.—Technical session.
"The Theories and Practices of the Past Fifty Years in Heating and Ventilation," by S. R. Lewis.
Panel discussion: "The Future Trends of Heating, Ventilating and Air Conditioning."

TUESDAY, FEB. 1

9:00 a.m.—Technical session.
"Review of the Development of Standards for Comfort Air Conditioning," by Lt. Comm. F. C. Houghten.
"Mathematical Analysis of Heat Distribution in Finned Surfaces," by W. H. Carrier.
"The Control of Air Streams in Large Spaces," by G. L. Tuve and G. B. Priester.
2:00 p.m.—Techical session.
"Intermittent Heating and Ventilating of Large Churches," by F. E. Giesecke.
"The Axial Flow Fan and Its Place in Ventilation," by W. R. Heath and A. E. Criqui.

WEDNESDAY, FEB. 2

9:00 a.m.—Technical session.
"Discoloration Methods of Rating Air Filters," by F. B. Rowley and R. C. Jordan.
12:30 p.m.—Organization meeting committee on research.
2:00 p.m.—Technical session.
"Optimum Surface Distribution in Panel Heating and Cooling Systems," by B. F. Raber and F. W. Hutchinson.
Unfinished business.
New business—resolutions.
Installation of officers.
Adjournment.
7:00 p.m.—Annual banquet.
Toastmaster, W. H. Driscoll.
Presentation of past president's emblem to M. F. Blankin.
Presentation of F. Paul Anderson medal.

THURSDAY, FEB. 3

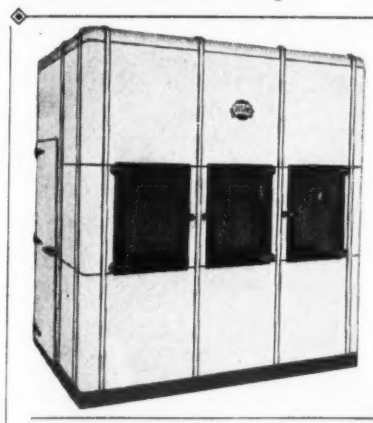
10:00 a.m.—Organization meeting of council.

12% of York Employes Have 25-Year Record

YORK, Pa.—A total of 12% of the normal employment of the York Corp., is made up of veterans who have served with the company for 25 years or more, S. E. Lauer, president, reported recently at the annual meeting of the Twenty Five Year Club. Nearly 500 were present.

"It is upon this kind of a firm foundation that we have steadily built our past and upon which depends the future stability of our postwar planning," Mr. Lauer told the members, adding that never in the history of the company was such an organization of seasoned veterans more urgently needed for war production. The audience represented 16,500 years of service.

Mr. Lauer, himself a 30-year member of the club, welcomed 88 new members including six women, the largest group ever to be admitted. This brought the number who have reached their 25th year of employment to 216. Those with longer service include three men who have been with York for 50 years.



IT'S TYLER
BIGGEST PROFIT POSSIBILITIES FOR THE LONG SWING!
Now, with Tyler devoting much effort to the national war program, don't forget the benefits which will accrue to Tyler distributors when the full force of Tyler production is again harnessed to peacetime business. TYLER FIXTURE CORPORATION, NILES, MICHIGAN.

LARKIN
REFRIGERATION PRODUCTS
See Your Jobber Now - - Or Write Direct
LARKIN COILS, INC.
519 MEMORIAL DR., S. E. • ATLANTA, GA.
Originators of The Cross Fin Coil

0-1414

Ready FOR THE ANNUAL MILK COOLER PROBLEM
About this time of year ordinary controls are not always suitable for Milk Cooler use. That's when the service engineer gains by recommending the special 0-1414 Milk Cooler Control made by Ranco. This control is similar in most ways to those used for general applications, but it has one feature essential to Milk Coolers. Ranco 0-1414 can be located in a much colder temperature than is desired in the cooler. This is important because in winter weather the switch may be located where it is subject to sudden drops in temperature. With Ranco 0-1414 on guard, the Milk Cooler remains at the desired temperature. Specify Ranco 0-1414.
Ranco Inc. COLUMBUS, OHIO

New Freezer Space Planned to Relieve N.Y. Warehouses

(Concluded from Page 1, Column 2)

civilians are being permitted to deteriorate or spoil due to improper warehousing threaten to involve ODT, OPA, and WFA in an interdepartmental row, according to the "Times."

Because it will take 60 to 90 days to convert warehouse facilities from storage to freezer operation, food-trade circles say there will be no solution to the problem of congested warehouses unless supplies are released.

Joseph B. Eastman, director of ODT, confirmed the report that he had asked WFA and OPA to do something to relieve the congested freezer facilities and announced that he had received a letter promising "immediate" action, the "Times" said.

New York City warehouses are operating at 89% of capacity, a survey by the Food Distribution Administration revealed, but a warehouse spokesman declared that "when we are operating at 90 to 95% of capacity we figure that we are operating at the limit."

While the conversion of facilities calls for materials bearing a high priority rating, warehouse officials expect that the War Production Board will hurry the processing of their applications.

New York City's huge population —7,000,000—requires vast supplies of food, necessitating much storage space, but this problem is complicated by the fact that tremendous quantities of food must be warehoused to supply ships which have to be provisioned before sailing.

To relieve the additional strain on freezer space caused by record slaughterings, the OPA has lowered ration points to put more meat into civilian consumption, the WPB has eased restrictions on commercial refrigeration, and the ODT is scheduling shipments for orderly movement to and from warehouses to prevent transportation congestion, the "Times" report said.

Oil Burner Service Charges Revised

WASHINGTON, D. C.—The Office of Price Administration through a revision of its supplementary regulation covering oil burner services make clear to suppliers which of several specified service charges they may use.

Oil burner service suppliers generally operate on either an hourly rate of per-call basis. Under today's revision, per-call operators whose present rates under the Services Regulation (MPR 165) are either less or greater than those established by OPA Sept. 23, 1943, in the oil burner service regulation now have the choice of retaining their present per-call rates or converting to an hourly rate basis not to exceed that established in September, 1943.

The new action also provides that (1) rates for the first hour may be charged for any portion thereof, even though the actual working time consumed is less than one hour, (2) charges for the second or succeeding hours must be computed on the basis of 15-minute periods, rounded out to the nearest 5 cents, and (3) rates established apply to each mechanic or service man employed on the job.

Another provision makes it clear that the new regulation does not apply to suppliers who sell oil burner service under a seasonal or yearly contract or to sellers who first sell or offer to sell services on or after the effective date of this revised regulation.

The revised regulation delegates to the regional administrators and district directors authority to apply the rates for any city to an area which, in the judgment of the field officer, should take the city rate. This is necessary, OPA said, because of the many large cities surrounded by populous suburban communities that normally have had the same level of rates.

The action is found in Revised Supplementary Service Regulation No. 19 (Oil Burner Services), effective Dec. 15, 1943.

Birmingham Outlet Sold To W. V. Peek And Ausbun Co.

BIRMINGHAM, Ala.—Hill Sales, commercial refrigeration concern of this city headed by Earl Wolfe, has been sold. W. V. Peek, refrigeration service man, of the city, bought the building and some of the commercial equipment, and domestic equipment and parts were sold to the Ausbun Appliance Co., General Electric dealers. Peek has moved his business into the building.

Wolfe has joined General Refrigeration Co., New Orleans.

9% Furnace Sales Increase Doesn't Include Auxiliary Parts, OPA Rules

WASHINGTON, D. C.—The recent 9% increase authorized in manufacturers' sales of steel warm-air and cast-iron furnaces applies **only** to the furnace proper and does **not** apply to any auxiliary equipment, the Office of Price Administration has stated.

The manufacturer may increase his lowest list price on a complete furnace oil-burner unit, a stoker-furnace unit or a gas-furnace unit only on the selling price of the furnace itself (including casing and grates) even though his price sheet lists ceiling prices on the complete unit.

For example: A manufacturer lists a furnace oil-burner unit including an oil burner, blower, filter and controls (auxiliaries) for $400. The furnace itself lists for $100. The manufacturers' selling price for the unit may be increased by $9 (which is 9% of the list price of the furnace itself), establishing a new ceiling price of $409 for the complete unit. He may **not** increase his price by adding 9% of the list price for the entire unit (9% of $400 or $36) in order to establish a ceiling price of $436.

Selling prices for **others** than manufacturers of the furnaces and units shall be sellers' ceiling prices at the time of the effective date of the action pertaining to the particular type of furnace or unit, plus the actual dollar increase in cost to them of the furnace itself.

(The foregoing provisions were contained in Amendment No. 18 to Order A-1 under section 1499.159 b of Maximum Price Regulation No. 188 pertaining to steel warm-air furnaces and Amendment No. 9 to Order A-1 of Maximum Price Regulation No. 188, which pertains to cast-iron furnaces).

TO YOUR INTEREST . . .

Self interest is the strongest of all motives. If you can truthfully say to a prospective customer, "This is to your interest" . . . and prove it . . . the sale is as good as made. Well . . . this is to YOUR interest. So pull up a chair . . .

When the war is won, heat-transfer will be to the interest of EVERY business executive. If his business already uses it, it will be time to replace it. If his business does not already use it, there will be literally hundreds of applications . . . most of them war babies, many of them still military secrets . . . to increase efficiency, cut costs, increase profits. If he "won't listen," "can't afford it," is "too busy," "in conference" . . . wait. Take it easy. His competition will take care of these situations.

To your interest? Why, man, heat-transfer will be to EVERYBODY'S interest . . . is to everybody's interest right NOW . . . only everybody doesn't know it. And everybody can't know it until the full story can be told.

But YOU know it. You know it NOW. You know that heat-transfer is very much to your interest today . . . will be even more important to you in the future.

It's as if I said, "Thar's gold in them thar hills" . . . and produced a big nugget to prove it. And if I DID say that, what would you do? Why, you'd stake out your claim beside mine . . . wouldn't you? Well, that's what I'm a'sayin', pardner. That's what I'm a'sayin'.

PENGUIN PETE

P. S. And while you're staking out your claim to PROSPERITY . . . stake out another to FREEDOM. BUY WAR BONDS!

BUSH MANUFACTURING CO.

Commercial Cooling Units

HARTFORD CONN · 415 LEXINGTON AVENUE NEW YORK · 549 W. WASHINGTON BLVD. CHICAGO